The magazine for AUSTRALIAN radio amateurs

Volume 74 No 10
October 2006

Amateur Radio

WIRELESS INSTITUTE OF AUSTRALIA

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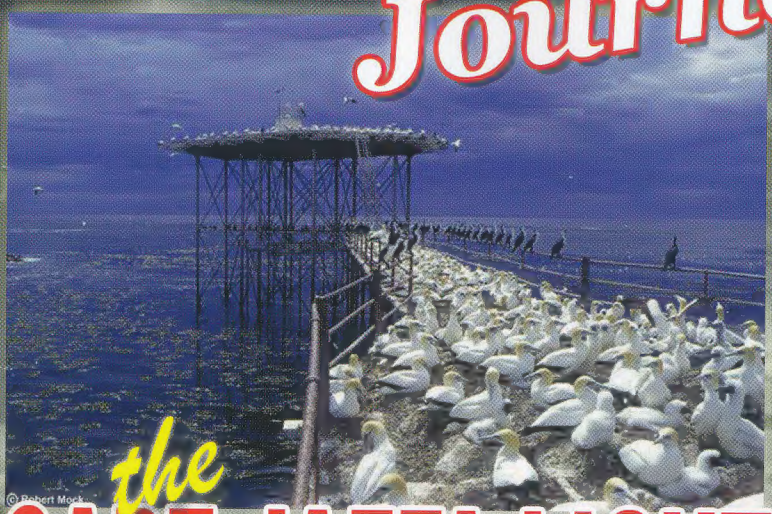

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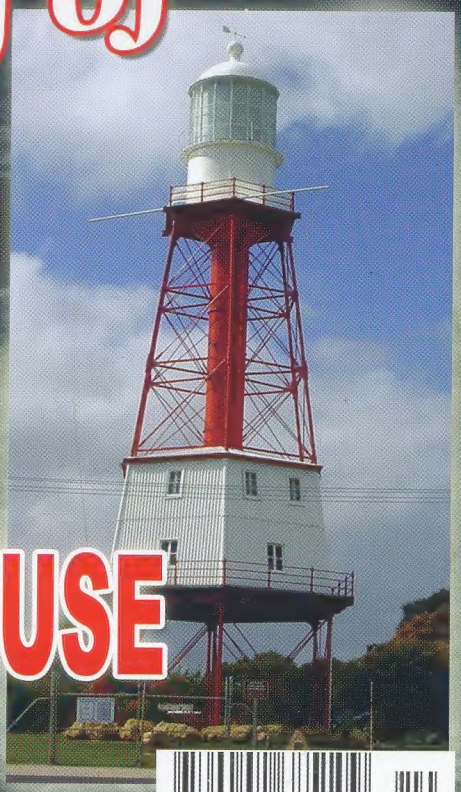

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Amateur Radio

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Amateur Radio is a forum for WIA members' amateur radio experiments, experiences opinions and news. Manuscripts with drawings and/or photos are always welcome and will be considered for publication. Articles on disc or email are especially welcome. The WIA cannot be responsible for loss or damage to any material. A pamphlet, 'How to write for Amateur Radio' is available from the National Office on receipt of a stamped self-addressed envelope.

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Editorial comment

Peter Freeman VK3KAI

Welcome again to all our readers. Another month has passed, with much activity. The failure of a satellite launch mission and the associated loss of several MicroSat projects. The successful launch and return of a Shuttle mission to the ISS. The launch of the first female "space tourist" via the Russian system, headed for a brief stay at the ISS.

Some months ago, the Publications Committee decided to cease publication of the propagation predication charts. I have received several items of correspondence on this issue. I have not been ignoring these emails or letters; rather I have been assessing the overall level of the responses. I would assess the outcome as about neutral – some in favour and some against.

Part of the "against" response relates to the lack of access to the more up-to-date tools available via the IPS website, and/or lack of familiarity with the tools available. I am happy to report that I have managed to convince a "volunteer" to prepare an article regarding the available tools. We anticipate that this "how to" article will be ready soon. We hope that the information will assist amateurs to access the excellent tools offered by the IPS, be that from home or via a computer at the local library.

August saw a busy month of "contest" activity locally: the RD Contest, the ALARA Contest and the International Lighthouse and Lightship Weekend. I hear that the RD result preparations are well underway. It looks as if they will not appear until the November issue at the earliest, but this will be an immense improvement on last year.

Firstly, I must confess that the information supplied to me was incomplete regarding the RD Contest. I was supplied with the intended text for the opening speech for the contest. Unbeknown to me, an opening speech, by the same author, from a couple of years ago was used. No offence was intended to Horrie Young VK2AMZ, the author of this year's intend speech. I was totally unaware of the situation until I listened to the WIA broadcast on September 17. It just goes to show that, as communicators, we need to improve our communications!

International Lighthouse & Lightship Weekend (ILLW)

One activity that occurred during August was a little different – the ILLW. I thank those that managed to submit material promptly, either via the normal channels or in response to my request for material, in time for this issue. I decided to make the ILLW a feature of this issue. Not really a contest, this activity weekend promotes operation from lighthouse and lightships. Part of the reason for the feature is the considerations required for such an activity. A great deal of advance planning is required: deciding on the venue, seeking approval to operate, booking the accommodation (in many cases), and planning the logistics..... Perhaps your club or group should start thinking now about next year's ILLW event?

I must also thank many of the team at Lighthouses of Australia Inc. for their assistance in sourcing pictures of the Cape Jaffa Lighthouse and platform, as used on the front cover. At this time, we are unsure of the source of the photograph of the lighthouse in its original location. I trust that the original photographer does not take offence – we would happily acknowledge him or her. Lighthouses of Australia Inc. has a comprehensive website covering Australian lighthouses and promotes the preservation of these historical sites. It is also a valuable resource for those considering an ILLW activity next year.

Graphics error

Unfortunately, the September issue showed what can happen if we do not pay total attention to detail. The circuit diagram of the solar regulator by Dale Hughes VK2DSH managed to lose some detail during the translation from draft to production. The entire production team has already passed their apologies on to Dale. Anyone needing a copy of the circuit diagram can request a copy either electronically, or via the mail, via the Secretary of the Publications Committee – see the left-hand column on page 1.

New Publications Committee Secretary

For some months now, our long standing Secretary of the Amateur Radio Publications Committee has been

continued on page 9

Phil Wait VK2DKN

Saying farewell to the Big Man

The last few weeks have not been easy. WIA secretary Chris Jones, a "big man" by any standard, tragically and unexpectedly passed away. At Chris's funeral, many people spoke of their affection, of many shared adventures, and of his significant achievements.

It may surprise you that Chris was a fully-fledged, initiated, member of the Sulka tribe in Papua New Guinea and had supported the village community for many years. The PNG Provincial Government is currently funding an upgrading of the school at Sulka tribe, including building a school library, which on opening will not have any books. Chris's family has established a memorial fund in order to buy books for the school library. Details are on the WIA website at http://www.WIA.org.au/.

Chris Jones was a leader in the revitalization and the restructuring of the WIA into a single national organization – a WIA which is now much more effective and much better able to serve the needs of you its members, and Australian radio amateurs generally.

This "one-man-call-centre" knew everyone everywhere, and worked tirelessly within the WIA for the introduction of the new entry level Foundation Licence and the new accredited assessment system. Chris (white pella belong Sulka tribe -VK2ZDD) is very sadly missed by very many people, within and outside the amateur radio community.

Putting tragic events behind us, we at the WIA have been taking a hard look at the administrative side of the organization. The WIA Board has recently appointed Ken Fuller VK4KF as Company Secretary to the WIA. With a background in Engineering and Administration, Ken has agreed to take the position on a short-term basis

In an AR comment last year, I described just how very complex the WIA is for what is essentially a quite small organization. The WIA provides many complex and specialist functions: International representation through the IARU; high level liaison with ACMA on licensing regulations and policies which affect the amateur service; magazine publishing; running an accredited amateur assessment system with the help of accredited assessors and the clubs; fighting threats to amateur radio such as interference from BPL and intruders into our bands; weekly news broadcasts; a Clubs Grants Scheme; contests; a QSL service – the list goes on and on.

Hard working individual volunteers, volunteer groups and committees, do much of this work. Permanent salaried staff in the WIA Melbourne office perform core business functions such as membership administration, the administration of the examination service, the club insurance scheme, day-to-day liaison with ACMA, accounts, and other time-critical functions.

Getting the mix of work right between groups of volunteers and paid staff is a tricky business, and volunteers need to be co-ordinated and managed in a very particular way. In general, I believe we rely too much on a very small core group of over-worked volunteers and we need to change that situation.

One solution would be to find more volunteers; but their management, in order to ensure the right person has the right task, also consumes time. Another way would be to pay for more office staff, but this is expensive and we are striving to keep membership fees as low as possible, especially considering that many of our long-term members are either retired or nearing retirement. Conversely, many of our newer members are quite young with many financial commitments.

The answer will lie in a little of both, more volunteers with particular skills, and in the longer term, an expanded WIA office. We are already looking in depth at some issues, such as the requirement to set up a system for the Advisory Committees, and the Technical Advisory Committees.

Such expansion takes money. Although the WIA is now in a very strong financial position, much of the available funds have been transferred from the old Divisions and from recent bequests – not so much from operating profit. Bequeathed funds are invested for the future good of amateur radio, they are not intended to fund day-to-day operations, but rather are targeted to specific purposes consistent with the wishes of the benefactor.

Any expansion of the WIA office must come from operating profit, and unless we increase membership fees (which we do not want to do), more operating profit can only come from more money from publications and services, and more new members. The very best scenario is increased membership – more new members.

Therefore, if you want to see an even more effective WIA working for Australian radio amateurs, please help us attract new members to the WIA.

If you are not already a member, please consider joining.

If you are in a club, please encourage other club members to join the WIA.

This way we can guarantee the ongoing viability of the WIA well into the future, and do the big-fella proud.

ar

Plan ahead

49th Jamboree On The Air

10th Jamboree On The Internet

21–22 October 2006

WIA News

Call for Expressions of Interest in 505-510 kHz

The United States Federal Communications Commission has granted an experimental licence to the ARRL on behalf of a group of 23 US radio amateurs interested in investigating spectrum in the vicinity of 500 kHz.

Experimental license WD2XSH was issued September 13. The two-year authorization permits experimentation and research between 505 and 510 kHz using narrowband modes at power levels of up to 20 W ERP.

The FCC decision to allocate an experimental band from 505-510 kHz is a logical outcome - it avoids the distress and safety channel at 500 kHz and the NAVTEX maritime safety information broadcast channel at 518 kHz.

The WIA is prepared to apply for a similar experimental allocation for Australian amateurs if there is sufficient demand.

Please send expressions of interest to WIA Director Glenn Dunstan, VK4DU, at vk4du@wia.org.au .

Ken Fuller VK4KF appointed WIA Company Secretary

Ken Fuller, VK4KF, has been appointed Company Secretary to the WIA, following the passing of Chris Jones VK2ZDD, our previous Company Secretary.

Ken has a background in engineering and administration and has agreed to take the position on a short term basis.

The principal tasks of the Company Secretary are to support the Board of Directors and oversee the various governance functions of the WIA. The duties of the Company Secretary are in general what the Board decrees but there are some core duties for which the secretary will be held responsible by members and Government through the Australian Securities Investment Commission (ASIC).

The WIA would like to thank Ken very much for accepting this position at such short notice.

Five WIA affiliated clubs win cash grants

This year the WIA Board decided to trial a club grants scheme where an allocation of member's funds could be channelled back, through WIA affiliated clubs, for specific projects. The WIA Board made $5000 available for this trial.

The decision as to which club should receive a grant was made by an appointed 2006 Club Grants Committee, comprising Ken Fuller VK4KF (Chair), Deane Blackman VK3TX and Wally Howse VK6KZ. These gentlemen, each with extensive professional experience in such matters, had the very difficult job of identifying the most worthy submissions based on the viability of the project, and the maximum benefit to all Australian radio amateurs.

Eighteen submissions from 13 WIA affiliated clubs were reviewed. Submissions were of a high standard; however with limited funds available, naturally not all worthy club projects could be supported.

The 2006 Grants Committee report recommends the following five grants be made:

- The Scout Radio Activities Group, with approximately 50% WIA membership, a grant of $770 to support the building and operating of 3 APRS Tracking Units as a demonstration project for scouts and like groups.
- The Orana Region ARC, with approximately 50% WIA membership, $930 toward a project to link 5 repeaters to improve 2 metre and 70 centimetre coverage over an extensive area in the Condobolin and Dubbo areas of New South Wales.
- The Northern Tasmania ARC, with a 58% WIA membership, $1,900 toward the purchase of a commercial diplexer to allow mounting of the transmitter and receiver antennas at single point on its Mt Barrow site, covering a wide area of Tasmania.
- The East Gippsland ARC, with an 86% WIA membership, $500 to replace solar panels stolen from the club's repeater site at Mt Cann.
- The Ballarat Amateur Radio Club, with an 80% WIA membership, $900 to fund phase 3 of stage 1 of a project to establish a modern HF and 2 metre and 70 centimetre club station providing facilities for remote access in times of emergency and for members from their homes and elsewhere, described by the Committee as the most innovative of all the proposals submitted, and also commended as being very well presented.

The WIA Board accepted the committee's recommendations and is in the process of distributing the grants.

The WIA thanks all affiliated clubs who offered proposals for consideration, and particularly thanks the members of the Grant Committee for a detailed, carefully considered and well presented report. The full report of the Grant Committee can be found on the WIA website at www.wia.org.au

The Board believes the Club Grants Scheme offers a valuable opportunity for the WIA to further support its affiliated clubs and encourage innovative projects to the benefit of all Australian radio amateurs. The outcomes from this first allocation of grants will be watched very carefully.

ar

Cover Note

Our cover this month features the Cape Jaffa Lighthouse. The lighthouse was originally sited on the Margaret Brock reef (top). In 1978 the lighthouse, with its built-in accommodation for 2 families, was lifted from the platform and taken to shore at Kingston, where it now serves as a popular tourist stop, as well as the site for the VI5CJ ILLW operation. The platform remains at the reef, now providing a home to 630 nesting pairs of Australian Gannets. Thanks to Robert Mock (bottom left photo), Tony Hutchison VK5ZAI (bottom right photo)and Lighthouses of Australia Inc for assistance and photographs. Despite our best efforts, we have not been able to identify the photographer of the top photograph in our montage. We would be happy to acknowledge him or her, once identified.

In praise of the humble "Inverted V" dipole

Felix Scerri VK4FUQ

The last couple of weeks I've felt like I did when I first became licensed in 1985, spending many enjoyable hours in the backyard playing around with antennas. In those days there were quite a few antenna failures, but also one or two successes. All of it was a valuable learning experience. In recent years I've come to depend on simple wire antennas such as dipoles and verticals, and these have worked well subject to a couple of qualifications. I have a particular fondness for the quarter wave vertical, except for one thing ..... noise pickup!

The problem

Power line noise has been a very long-time annoyance at this QTH due to the presence of very old aerial power feeders in the area. Depending on the prevailing weather, the general level of power line noise ranges from moderate (the lowest) to very high. It is even audible on the VHF broadcast band where it interferes badly with strong signals. The local electrical utility, responding to my many complaints over the years, has changed insulators and such, but the problem has essentially remained unchanged.

The "inverted V" solution

Consequently, it has been a long term desire of mine to mitigate this noise problem as much as possible. Over the years I have found that some wire antennas do differ considerably in their power line noise pickup. Sadly, verticals are by far the worst in general terms. Dipoles are better (less noise pickup) and full wave loops also possess a low noise pickup characteristic. However, loops do present some constructional difficulties compared to simple dipoles. Listening to an "on-air" QSO a while back, where the subject of "inverted V" dipoles was being discussed, it occurred to me that I'd never tried an "inverted V" dipole on 20 m.

My 40 m antenna is a separate "inverted V" dipole which has performed extremely well long-term; I realised that it has never been overly bothered by power line noise. Thus encouraged, after first noting the level of power line noise received with my existing 20 m horizontal dipole, I hurriedly reconfigured the dipole into a classic "inverted V" dipole. I was stunned to note that the level of power line noise had dropped by an average 2 to 2½ "S" points. Listening around on the band showed no deterioration in the strength of signals being received; if anything, the opposite!

Feeding options

The time since that afternoon has seen much tweaking, involving feedline changes, baluns and even noise bridge measurements, which have been rather interesting. It is nice when the practical observations agree with theory! Certainly, the noise bridge measurements confirm that the feed-point impedance at resonance has indeed dropped to slightly less than 50 ohms and that the SWR bandwidth has narrowed somewhat, again in accordance with theory. I have even opted to feed the "inverted V" with coax via a 1:1 current mode balun at the feed-point, given that the feed impedance is so low.

Ordinarily I would prefer to feed antennas with high impedance balanced feeder; however, resorting to the antenna books showed that direct feeding with balanced feed line and using an ATU in the shack was not that efficient in terms of additional loss caused by SWR. Direct feeding with RG58 coax is actually somewhat more efficient. The use of the balun is also a worthwhile addition in the interests of achieving a properly balanced feed. Digressing onto the subject of baluns briefly, I find the simple current mode 1:1 balun excellent in this application, although I am also a fan of the voltage mode 4:1 balun. Baluns! Yes, it is a complex and involving subject, but it's nice to know that both types work well in practice.

Performance

The best thing about the "inverted V" dipole is its excellent performance. Apart from the excellent low noise receive profile, it radiates beautifully as well! My definite "gut feeling" is that my "inverted V" dipole is performing better than its earlier configuration as a horizontal dipole. Perhaps I shouldn't be surprised. I noticed the same order of improvement when my 40 m "inverted V" was changed from a horizontal dipole, something necessitated by the loss of one of the end supports in a storm.

I've had some fantastic contacts on the 20 m "inverted V" dipole of late, and I've been hearing European and American DX with much stronger signals than I did with the horizontal dipole. Why should this be? Is it the result of "mixed" signal polarisation, or is it due to the elevated high current feed-point? I don't really know. Whatever the reason, it works beautifully! This is definitely one antenna that is easy to put up, requiring only one high centre support. I highly recommend it as a basic but high performance antenna.

ar

Got something to say about amateur radio?

Perhaps you have had a contest adventure?

Maybe an organised DXpedition or just off by yourself to an out of the way place, or perhaps an unusual not-out-of-the-way place?

An IOTA or even domestic 'IOTA' adventure, Pinchgut or Popes Eye perhaps?

Or you have devised an antenna that doesn't offend the body corporate?

Perhaps a historical record or story?

You built a homebrew whatever, or have a suitcase set you use in the park?

You might even disagree with something?

Share it!

We always welcome suitable material.

In the first instance send the editor a short synopsis and he'll put you on the right track (see page 1)

Equipment review

Ten-Tec RF Vector network analyzer

Ron Sanders VK2WB

I often experiment with RF transformers and filters, so was delighted when TTS Systems gave me the opportunity to try the Ten-Tec Vector Network Analyzer (VNA).

The unit was designed by Tom McDermott N5EG and Karl Ireland and described in the QEX magazine (July/August 2004), published by the ARRL. The authors gave the design to the Tucson Amateur Packet Radio (TAPR) group in USA. Given the devices used and the challenges for the average amateur in soldering small SMD devices, TAPR arranged for the Analyzer to be manufactured and sold by Ten-Tec. The VNA has transmit and receive ports, and measures transfer characteristics of networks using S parameters. Connection to a computer is via USB and the software operates through the Microsoft Windows© .NET 1.1 system, which is freely available. All relevant software is provided on the CD, and updates can be downloaded via the internet.

The VNA comes complete, with CD, plug-pack, USB cable, two coax cables, two attenuators, and a 50 and a 0 (short circuit) ohm terminator used for calibration. To allow for individual test setups there is provision for calibrating and saving data for different test fixtures, so that any test fixture data can be used to correct the final measurement. The frequency range for normal accuracy is 1 – 100 MHz but can be used from 200 kHz to 120 MHz with reduced accuracy. Normal accuracy is much better than required for amateur use and, in fact, is comparable to commercial instruments costing many times more.

A separate program allows the VNA to be used as a signal generator with frequency resolution of 1 Hz. The complete manual can be downloaded from the Ten-Tec or TAPR website. The unit measures 160 mm long x 115 wide x 30 mm high (see photos).

Tests

The simplest arrangement to check an RF matching transformer is to use a passive 50 ohm Return Loss Bridge, an RF signal source and a detector (receiver with S-meter would do) to measure the bridge balance. This will give a rough indication of SWR, but nothing to show loss through the transformer. The VNA is designed for 50 ohm in/out and incorporates all the necessary equipment to make all the measurements over a range of frequencies and display the result on a computer screen.

Photo 4 shows a 4:1 transformer designed to match 200 to 50 ohms over 1.8 – 30 MHz, and Figure 1 shows the circuit diagram of the transformer which is made up of two transmission lines (T1 and T2) which are wound on the same core. Each transmission line is made up of two18 g PTFE insulated wires forming two turns through a BN-43-7051 large balun core. All wires must be of equal length for correct operation, and in this case each wire is approx 250 mm long.

By connecting two of these transformers back to back we can achieve 50 ohms in and out, which is required for the VNA. It is common to use this "back to back" arrangement where input and output impedances are required to be identical. The compromise is that losses are double that for a single transformer and the Return Loss is decreased (less negative) which increases the SWR of the combination when compared with a single transformer. If the combination provides satisfactory results then it can be assumed that each transformer is also acceptable.

Photo 1 – Front view of the analyzer.

Photo 2 – Rear view of the analyzer.

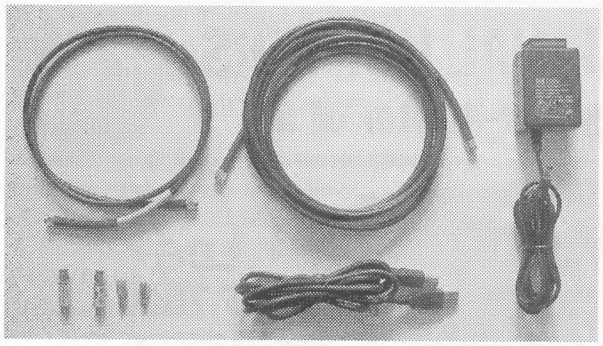

Photo 3 – Accessories that come with the Analyzer.

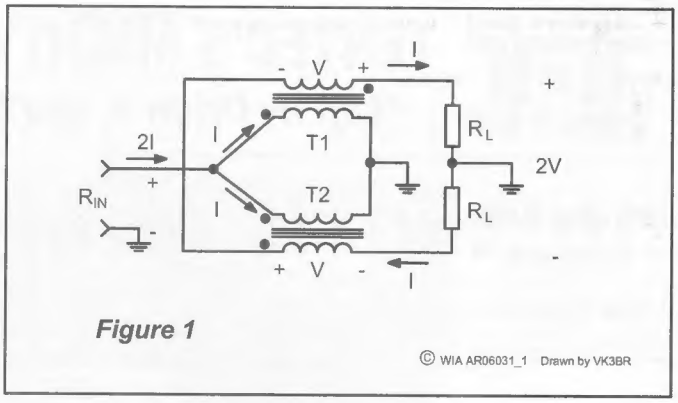

Fig 1 – Circuit diagram of the 4:1 transformer shown in Photo 4.

The following table shows the relationship between SWR and Return Loss (-db)

SWR	Return Loss	SWR	Return Loss
1.0:1	infinite	1.3:1	17.7
1.1:1	26.4	1.4:1	15.8
1.2:1	20.8	1.5:1	14.0

VNA features

Fig 2 shows the S11 and S21 screen presentation for the two back to back transformers as mentioned above.

The test Start and Stop frequencies can be set to 1 Hz resolution. The plot shows the sweep is from 0.5 – 35 MHz, which easily covers the HF amateur bands. Plots can be Single Sweep (SgSwp) or Free Run and the number of points across the sweep can be set between 100 and 1020 with the FreqGrid menu.

There is provision to load a test fixture file by selecting the relevant file from the Calibration menu and selecting Apply Fixture Calibration – bottom right hand corner.

The File menu allows you to give the plot a title.

The Tx Level is usually set to a maximum of 0dB, but can be increased up to about +3dB.

Note that there is an absolute maximum of +10 dBm which can be applied to either the Receive or Transmit port.

The Ref Level in conjunction with the VertScale menu can be set to a value that gives a clear display of the traces.

Up to five markers can be set anywhere on the plots at points of interest and will display relevant data in the top left corner. The trace in Fig 2 shows markers at the HF amateur band limits.

The green (upper) trace is the S21 measurement and indicates the gain/ loss through the two transformers. The maximum loss is about 1dB and occurs around 21 MHz – note that the grid line just above the green trace is 0 dB (Ref Level offset +5 dB) which is the Tx Level shown at the bottom of the screen. This indicates that each transformer has about 0.5 dB max loss.

The red (lower) trace is the S11 measurement of Return Loss and indicates the SWR of the combination.

A reading of –14 dB or more corresponds to an SWR of 1.5 or better. The combined transformers are at least –16 dB which indicates each transformer has an SWR of 1.4 or less.

As mentioned previously, the sweep can be set to Free Run which is very useful if you want to adjust the tuning

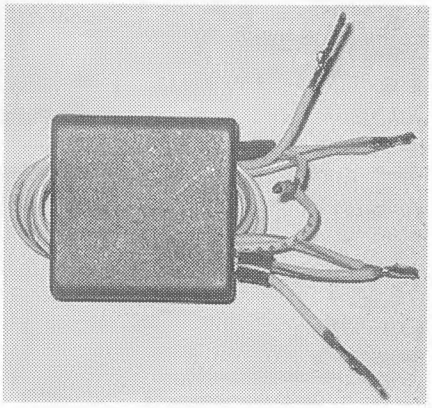

Photo 4 - A 4:1 transformer designed to match 200 to 50 ohms over 1.8 – 30 MHz.

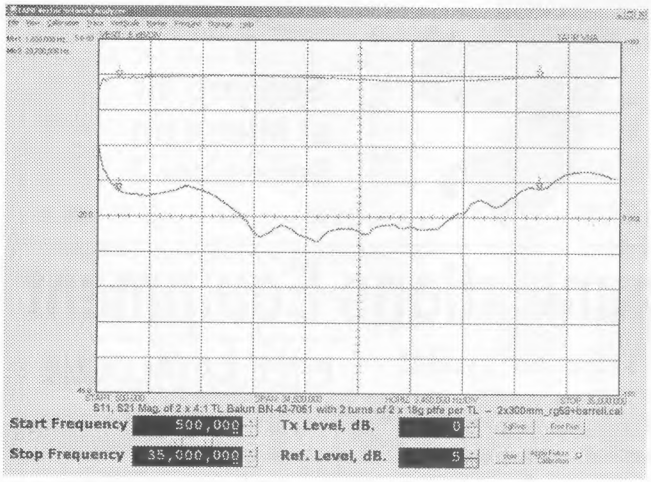

Fig 2 - The S11 and S21 screen presentation for the two back to back transformers (see text)

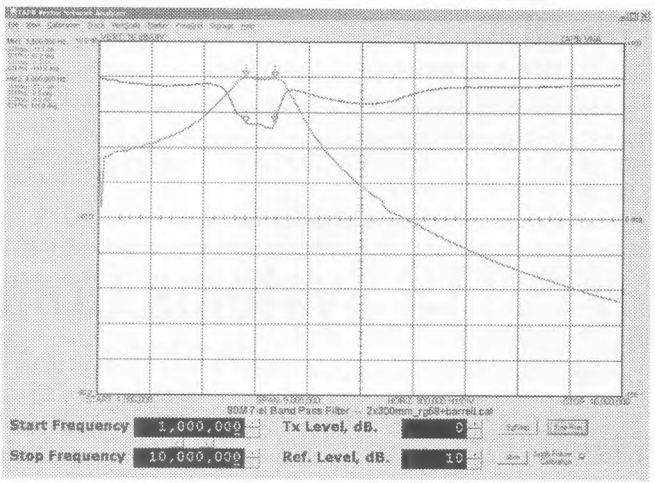

Fig 3 - Plots of an 80 metre bandpass filter which has markers at 3.5 and 4 MHz.

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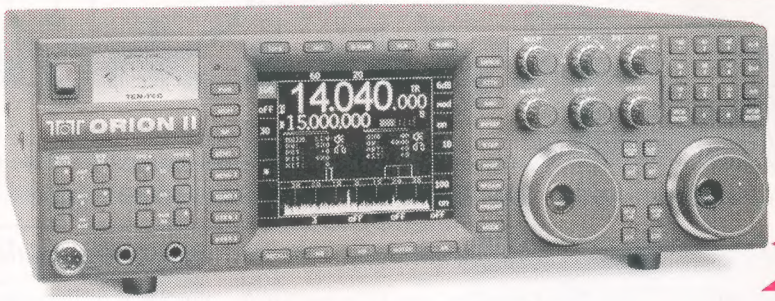

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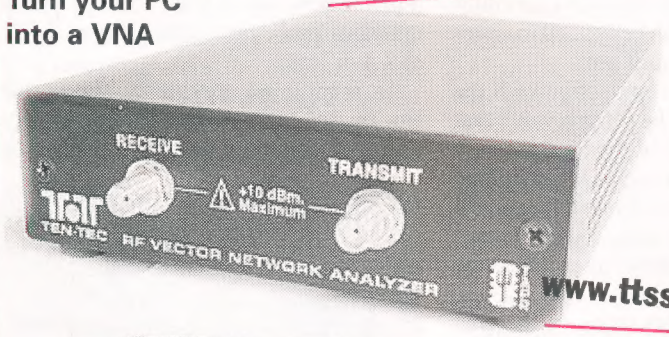
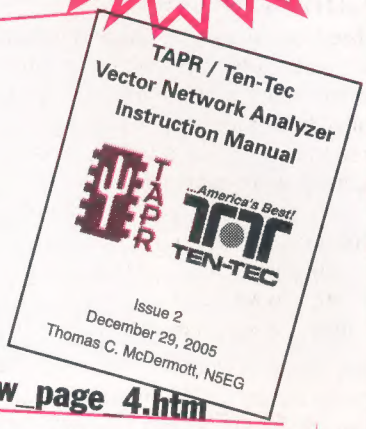


Download the VNA User manual from our web-site

www.ttssystems.com.au/new_page_4.htm



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of a device to get the required frequency response.

Fig 3 shows plots of an 80 metre bandpass filter which has markers at 3.5 and 4 MHz.

Some other measurements available from the menus are listed below:

(a) Time Domain Reflectometry (TDR) measurements, useful for coax cable fault finding.

(b) Smith Chart (Polar) plots which show markers in frequency, complex number form and SWR.

(c) Phase measurements of S parameters.

Conclusions

The VNA is easy to use and can replace several different instruments which are often found around the ham shack. The only extra pieces of equipment you may require are SMA adaptors to suit your normal coax connectors.

See the following internet references for more information:

http://www.ttssystems.com.au
http://www.tapr.org
http://www.tentec.com

Editorial comment *continued*

struggling with health issues, while assisting with easing me into the Editor's role. Bill Roper VK3BR has been a tower of strength behind this journal for a long time, as recognised by the Board of the WIA with the presentation of Life Membership earlier this year. Not only has Bill been the "gatekeeper" for the Publications Committee; he has subedited material as it passed along the production chain, prepared the graphics (both photographs and circuit diagrams) for publication, maintained the Articles Register (essential to keep track of the progress of articles), and has been an excellent point of reference for many issues relating to publication preparation. Bill's contributions over many years are very much appreciated by many amateurs. Were it not for Bill's contributions, I probably would have continued to say "NO!" to the approaches I received late last year to take up this role!

I welcome Ernie Walls VK3FM aboard the team as the new Secretary. In reality, this new role is simply a "change of hats", as Ernie has been a member of Publications Committee for some time. There may be some hiccups during the transition, but I am sure that Ernie will do the role proud. Bill will continue to assist as his health allows, especially in the preparation of diagrams – the consistent quality that you (normally) see is the result of Bill's hard work!

New Contest Columnist

I can announce that we will have a new Contest column author, as of the November issue. Firstly, I must thank Ian Godsil VK3JS for his continued contributions. I welcome Ian's replacement, Phil Smeaton VK2BAA. Phil can be contacted via vk2baa@wia.org.au, so why not drop Phil a line and make some suggestions for column content – it is your column after all!

Cheers,

Peter VK3KAI

ar

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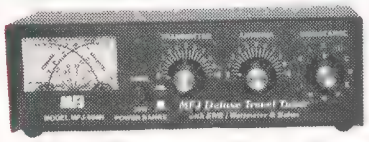

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Curtain rod antenna mast

Steve Porter
(hopefully VK4VSP when the exam results come through)

Anyone that's ever done any renovating will tell you it's a never-ending job. There's always something more interesting or more important to do than sanding that ceiling ready to paint, or grouting those tiles that you put up two months ago.

Then there's the problem with disposing of all the rubbish. I mean, what do you do with a load of old wooden curtain rods and bits of PVC pipe?

You stick an antenna on them, that's what.

This was very much a make-it-up-as-you-go-along project, as I didn't really know what would work until I tried it. I had four wooden curtain rods sitting in the shed just collecting dust and gecko droppings. They're the type that use wooden rings to hold the curtains (the curtain rods, not the geckos).

Photo 2 - One of the PVC sleeves showing the attachment of the guy ropes.

In my darkroom (photography is another hobby), I had a length of one and a half inch diameter PVC pipe. This was originally meant for developing sheet film in, but that didn't work too well.

The PVC slips over the rods easily with a bit of play. In fact there's too much play, so each nine inch piece had a hole drilled in the middle and a piece of fencing wire passed through and twisted together on the outside. Duct tape was wrapped around the outside to protect fingers from the sharp ends of the wire. This wire stops the tube sliding down the rod and as it's only supporting the weight of the tube itself, it doesn't have to be too over-engineered.

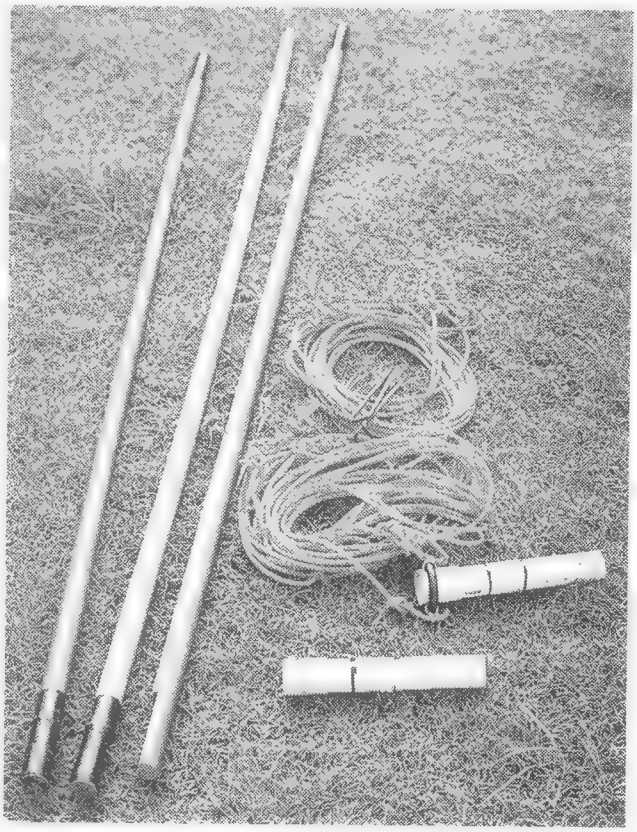

Photo 1 - The disassembled mast. Apart from the poles, everything, including the antenna, will fit into a small backpack.

Okay, that's the poles joined together, but they won't stand up by themselves so some kind of guying is required. Remember the curtain rings I mentioned earlier? Well, if you wrap a few pieces of fencing wire around a curtain ring and form a loop in each one, you have a way of attaching a guy line. To stop the ring slipping straight over the PVC sleeve a joining piece was used for the top of each sleeve and the ring pushed onto that.

I was quite proud of myself when I made the first sleeve, but while making the second one the curtain ring broke

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Photo 3 - The assembled mast in the backyard with the MP1 at the top. The wires hanging down are counterpoise wires for the antenna.

Photo 4 - It also works well as a flag pole. I do my bit for Australia Day.

Photo 5 - Close up of one of the guy rope attachments. Fencing wire would probably be more effective and reliable, but almost anything that will fit around the pole could be used.

while I was trying to force it on. An easier method was just to use yet another piece of fencing wire formed into a ring with the loops on that. The curtain rod slips through the ring before going into the sleeve and the joint stops it sliding down any further.

And that is pretty much it. The guy ropes are just a couple of 30 metre rolls of poly rope bought from Bunnings, tied onto the loops at one end and pegged to the ground with tent pegs at the other. Duct tape was wrapped around the ends of the poles to make them a slightly tighter fit, and one end of the top pole was sanded flat on the side to hold a Super Antenna MP1.

Any more than three poles is probably going to be a bit too rickety and very difficult to get up. Getting three poles up was very easy, with my wife helping by holding the bottom on the ground while the rest was lifted.

The whole thing was tested with three poles and the MP1 at the top, but it could also be used as two masts of two poles each with a dipole between them, or three on one side and one on the other for a sloper. The possibilities are endless.

Just make sure you use poles that are no longer required for their original purpose, otherwise you may be using them as tent poles and the curtains as a tent.

Incidentally, it also works well as a flag pole.

AR

A 4-125 linear amplifier for 160 m

Part 1

Drew Diamond VK3XU

Hardly a week goes by where we do not welcome a new station to the "Top-Band" 160 metre day-time amplitude modulation 11 am session. For the urban amateur with limited antenna space and height, the challenge of putting out a useful signal may seem rather daunting. A major factor limiting good reception is the almost universally high ambient noise level in most areas around our cities and towns.

In practice, it has been found that a fully modulated carrier power level of about 50 to 100 W into a reasonably effective vertical antenna is required for reliable cross-town ground-wave working. Yet few (if any) production model commercial transceivers will deliver much more than about 20 to 30 W continuous for AM work. Remember that the peak envelope power (PEP) will be about four times the carrier level, so a 100 W, 100% modulated, AM transmitter must be capable of delivering a PEP of 400 W to the load.

An accepted method of producing a potent AM signal at amateur power levels is with "plate and screen" modulation using valves such as 807s or 6146s. Unfortunately, for many amateurs today, there may be various technical and supply reasons as to why this approach is not viable. Therefore, my goal was to build a sensitive, single-band, 400 W amplifier using valves and parts that are obtainable either locally with reasonable effort, or from well-known US mail-order businesses.

The popular grounded-grid configuration, which requires a large input drive, is rejected in favour of a grid driven arrangement. Hence, a 100% modulated AM signal input of only 5 W carrier is required to produce a clean 100 W (400 W PEP - the legal limit) output from the amplifier. Additional low-pass filtering ensures that harmonics are at least –50 dB down on the fundamental. Naturally, the amplifier may also be used for SSB or telegraphy service.

Photo 1 – The 4-125 linear amplifier for 160 m.

Choice of valves

Let me briefly discuss the choice of valves suited to the 400 W power level. My personal preference is for glass transmitting valves because when, and if, they glow too "red in the face", I want to be able to see and correct it, so the ceramic family is ruled out.

Supplies of "sweep" type TV valves (6JS6, etc) are rapidly drying up; those remaining command high prices as replacements in older transceivers (nevertheless, their lower HV operating voltage is an attraction [Reference 1]). At least four of these operating in parallel or push-pull would be required (Reference 2).

813s certainly are still fairly plentiful, and (usually) reasonably priced, even new. They are rather tall, however, and cannot (or should not) be operated on their side, and so dictate a tallish cabinet assembly.

This leads us to the more compact 4-125, 6155, RS1007, QB3/300, 4D21 family (Reference 3). Maximum anode/plate dissipation is 125 W, and the screen, 20W. Maximum plate voltage is 3000 V (Reference 4). These devices, and their necessary sockets, are not too difficult to find, new or second-hand. When mounted vertically, they permit a satisfactorily compact assembly. A pair, at a plate potential of 2500 V, will deliver a clean 400 W PEP output signal, and are therefore chosen in this instance.

Circuit

An earnest attempt has been made to use parts that may reasonably be obtained by the resourceful builder. For instance, a modified 500 VA microwave oven transformer provides power for the 2.5 kV dc plate supply. An ordinary generic toroidal power transformer, in addition to powering the bias and screen supplies, has an additional winding fitted to supply the 5 V ac at 13 A for the two valve heaters. There we have two common difficulties neatly tackled. More information is given below.

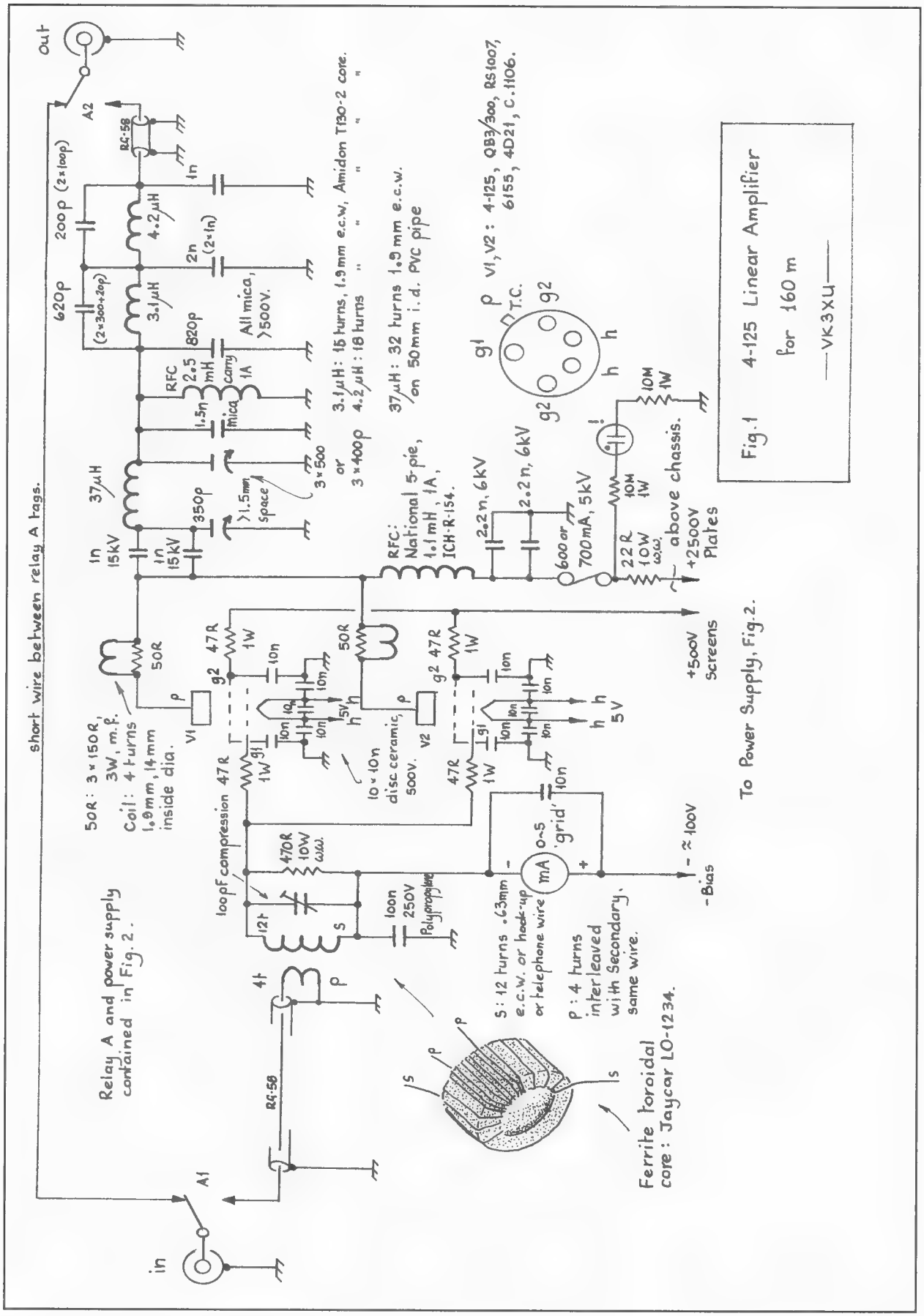

Figure 1 – Schematic of the RF section of the 4-125 160 m linear amplifier.

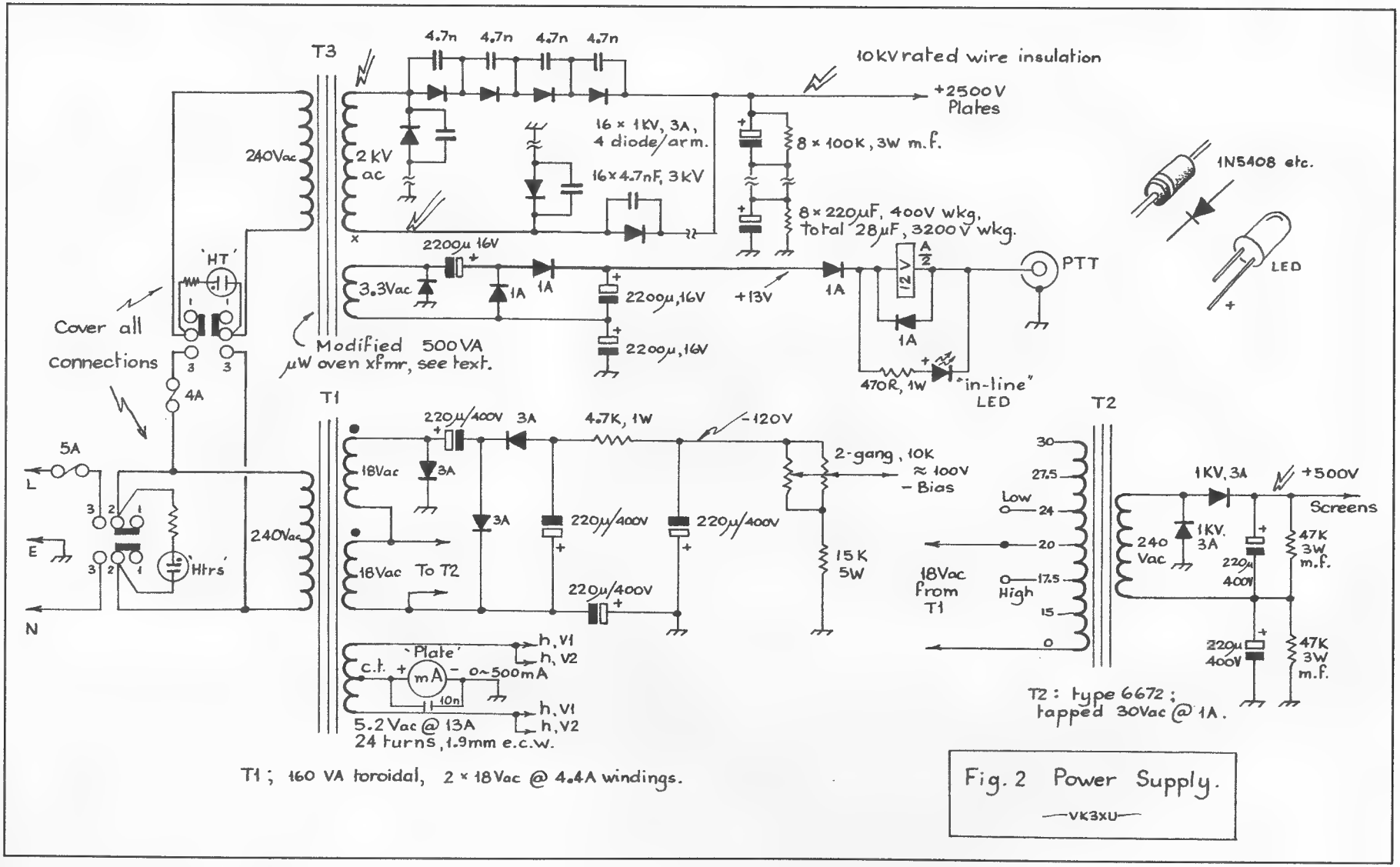

Figure 2 – Schematic of the power supply for the 4-125 160 m linear amplifier.

Two 4-125 (or equivalent) power tetrodes are operated in parallel, as shown in Figure 1. Rather than simply terminate the input grid circuit in 50 ohms, a 1:9 broadband toroidal step-up transformer effectively triples the signal voltage applied to the control grids. Only about 5 W drive is required to produce 100 W (the amplifier has 13 dB gain, so 20 W PEP input produces 400 W PEP output).

The secondary of the signal input transformer is terminated with a 470 ohm 10 W wire-wound resistor. A compression mica trimmer capacitor is adjusted to effectively cancel the self-inductance of the wire resistor, and thus establish a resistive input impedance to the amplifier that is close to 50 ohms at 1.8 MHz.

A generic 160 VA toroidal transformer T1 (Figure 2) with two series 18 V ac windings powers a conventional voltage tripler, and so delivers a maximum -120 V dc smoothed bias voltage to the control grids. A parallel wired (to improve reliability of this part) dual-gang 10 k potentiometer allows adjustment of the bias voltage (and hence control of the amount of standing no-signal plate current). A bias potential of (nominally) -100 V dc is applied to the grids, and thus establishes a no-signal standing plate current of about 20 or 30 mA for class AB1 or AB2 operation.

By experiment, it was determined that a screen voltage of 500 V dc yields maximum output coincident with best linearity for valve types QB3/300, RS1007 and 4-125. There are no known stock transformers presently available capable of providing such a potential, so I have applied the old dodge of using an ordinary low-voltage transformer (T2) back-to-front, powered by applying 18 V ac to the 0-20 V ac connections as shown. A voltage doubler on the (nominal) 240 Vac winding provides a satisfactorily regulated potential of about 500 V dc at the 10 or 20 mA needed by the screens. The screen voltage may be altered (within reason) by changing the tap position on T2, if required.

A plate potential of about 2500 V dc would be typical for such an amplifier, and that would call for a secondary HT winding of 2000 V ac at up to perhaps 400 mA. Fortunately, ordinary microwave oven transformers have a secondary HT winding of around that figure. When applied to a diode bridge and filter capacitor, a loaded plate voltage of 2300 to 2500 V dc is obtained, which is just sufficient in this instance to give 400 W PEP output power. A 500 VA transformer, modified in accordance with Reference 5, is used here.

The 16, 1 kV/3 A controlled-avalanche diodes in the HT bridge do not require equalising resistors (as do ordinary diodes), but they each should have a 4.7 nF transient suppressor capacitor wired as shown to quench diode switching noise. Eight 220 µF/400 V electrolytic capacitors connected in series (total 28 µF) function as filter/reservoir capacitor for the HT plate supply. A 100 kΩ, 3 W bleeder resistor is connected across each capacitor to equalize the voltage distribution across these, and to bleed off their charge when mains power is removed (but read on).

In use, HT transformer T3 need only be powered when actually required to go "on-air". Where no HT plate supply is applied, the valves are effectively biased off, or at a very low, safe level. A special 600 or 700 mA high-voltage fuse is included in the dc plate supply line, which will blow should the plate to pi coupling capacitor fail. Also included is a 22 ohm 10 W current limiting resistor. In the unlikely event of a "flash-over" occurring, the resistor will limit the amount of instantaneous current available from the HT filter capacitor, and thus prevent serious damage (Reference 8).

The existing 3.3 V ac magnetron heater winding on T3 is voltage tripled to provide 12 V dc needed for the amplifier in/out relay (which must only be operable when the HT is "on"), operated by pulling the PTT line to ground via the transceiver. A panel mounted LED is wired across the relay coil to indicate that the amplifier is "in-line".

In order to determine the values required in the pi output tank circuit (Figure 2), we need first to calculate plate load impedance. According to most texts, plate load impedance for a class B amplifier (like this one) is approximately:

$$Zp = \frac{E}{1.6 \times I}$$ .... (Reference 6)

where

Zp = plate load impedance,

E = plate voltage, and

I = plate current in amperes.

In an experimental "lash-up" model it was found that, at a loaded plate voltage of 2300 V, plate current at maximum output measured 250 mA (0.25 A), which represents a calculated plate load impedance of approximately 5750 ohms.

Using the very helpful tables provided in Reference 6, for a loaded Q of 14, in round figures, input C (Tune) = 220 pF, inductance = 37 micro-Henry, and output capacitance (Load) = 1600 pF. Tune and load capacitors are (naturally) variable, so any error may be allowed for by adjustment. However, to check the correctness of the inductance needed, coils of values slightly larger, and slightly smaller, than 37 µH were made and tested in the pi tank circuit. The calculated 37 µH does indeed yield best output efficiency.

Rejection of the second (3.7 MHz) and third (5.55 MHz) harmonics by the pi output matching circuit alone is only about 30 or 35 dB, which is not nearly good enough for an amplifier of this kind. Therefore, the output is more thoroughly cleaned-up by passing the signal through a very effective and efficient elliptic low-pass filter (Reference 7). Insertion loss is measured at only 0.1 dB, whereas rejection of 2nd and 3rd harmonics exceeds 40 dB.

In accordance with standard practice, HF and VHF stability is assured by installing a 47 ohm 1 W parasitic stopper resistor close to each control grid and screen grid, and a 50 ohm (three parallel 150 ohm 3 W metal-film non-inductive resistors) and a four-turn coil at each plate cap (References 8 and 9). The chassis effectively isolates the input (below) from the output circuit (above chassis). These measures, together with the swamping effect of the 470 ohm terminated "passive-grid" input, render the amplifier unconditionally stable.

When the amplifier is in "idle" mode (heaters and bias on, and screen volts applied), there is a curious phenomenon where the un-powered plates "float" up to a potential near that of the screens (500 V dc in this instance). It is due, I think, to "electron-coupling" between screen and plate for each valve. There is a danger, therefore, that when work is required to be done in the high-voltage output area, one might assume that it is sufficient to simply switch the HT off, and all will be safe. Not so. Accordingly, a simple neon/resistor device is wired right there to remind the operator that high voltage exists, and to remove mains power (and allow time for filter capacitors to discharge) before any work is done.

Now for some deliberate (but plausible) mis-treatment:

For a tetrode amplifier, it is sometimes possible to damage the valve(s) if full

drive signal is applied where plate voltage is absent (HT fuse blown, for instance), but screen voltage exists. For the prototype model, screen current is 50 mA for each valve (total 100 mA). Such a demand causes the screen supply to fall to 360 V. Screen dissipation is .05 x 360 = 18 W, just below the 20 W maximum. No damage was detected.

Next test was to "hot-switch" the amplifier in and out (by switching HT on and off) with full drive and maximum output power. No damage was detected.

Brief but intentional serious mis-tune, causing brightly glowing plates, caused no damage, and full HT applied to cold valves (no warm-up) also caused no damage.

Construction details will be given in Part 2.

References and further reading

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3. "A Linear Amplifier for Australian Conditions"; R Reynolds VK3AAR, Amateur Radio, April-June 1978 (3 parts).
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8. Radio Handbook; Wm Orr W6SAI, Sams, 23rd edition and recent previous editions.
9. "Using the 4-125, 4-250 and 4-400 in Kilowatt Amplifiers"; R Rinaudo W6KEV, QST, July 1962.

to be continued

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Idyll Daze on the Clarence River

Richard Cortis VK2XRC

Some time on a cold winter evening in 2005, my wife said she wanted to go somewhere different for our Christmas-New Year break. OK. But you make some suggestions. What about a houseboat on a river somewhere up north? OK. Where do you have in mind? "I'll have a look" she said. An hour later I am presented with the website of Clarence Riverboats. OK. But you have to book it. So she did.

Presented with the booking, I thought I had better get my gear into shape and work out how I was going to play amateur radio on my holiday. I decided that it had to be light weight, portable and simple to erect. At the planning stage, I did not know much about the houseboat apart from the brochure pictures from the internet. I assumed that the houseboat would have a decent 12 volt battery because that is how they run the lights and the TV, etc. The fridge is gas. So I did not take a battery.

The antenna was a major consideration. It had to be simple to transport and erect, and be frequency agile so that I could change bands without a lot of kerfuffle. I had one of those ten metre extendable fibreglass rod/tower things from a previous dream and I thought it would be a good start. However, a vertical whip has to have a ground plane to drive against, so I drew on experience playing with marine radios on ocean racing yachts which told me I only needed about 150 mm of copper plate in the water.

I scouted around and found a discarded, corroded, and bent piece of 40 mm diameter copper pipe, hacked off 250 mm (for good measure) and attached some wire with an ugly looking soldered joint. I ended up having to use the old Scope soldering iron augmented with a reasonable propane burner to get the solder to flow. Also, the corrosion pits were a bit deeper than I first thought. I do not think the RF (at HF) cared about the look of the joint. In the racing yachts we

Photo 1 – The *Idyll Daze* with the two antennas mounted to the rear of the upper deck.

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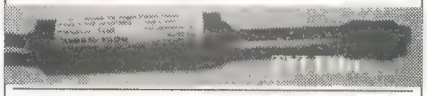

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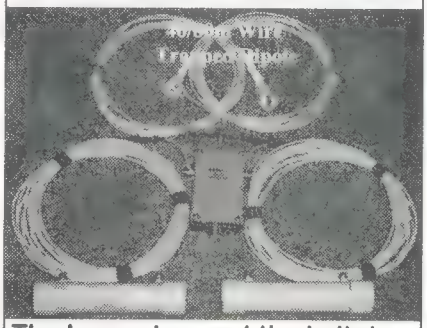

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had nice hydrodynamic dynaplates. On the houseboat we were going to have an ugly piece of copper pipe about the same surface area as the dynaplate. And a bit cheaper too!

Being a belt and braces type (you only have to look at my figure to see why), I decided that a second antenna was in order. I had recently purchased an Outbacker antenna for another dream and I thought I should bring it along and give it a go. The Outbacker is intended for mobile use, and has a large and stiff mounting spring with a half inch diameter bolt to connect it to the support structure. Band tuning is with a jumper lead into banana sockets on the antenna and fine tuning is achieved with a stub at the top. You have to bend the spring to get to the stub which means the support structure has to be up to it. I guess that is why the half inch bolt is there.

I welded up a stainless steel angle bracket and welded a half inch stainless steel nut to it to accept the antenna. I bolted the bracket to a metre length of pine floor board I found on the Council cleanup. I drilled and tapped some studs to allow connection of the recommended heavy earth strap and then drilled some holes for some U-Bolts to allow attachment to a rail. I also drilled some holes in the timber and inserted some Venetian blind cord to tie the bottom of the timber to the rail. I tried out the Outbacker using the manufactured bracket attached to the temporary fence panel on a nearby construction site. Indications were that it tuned satisfactorily on all installed bands.

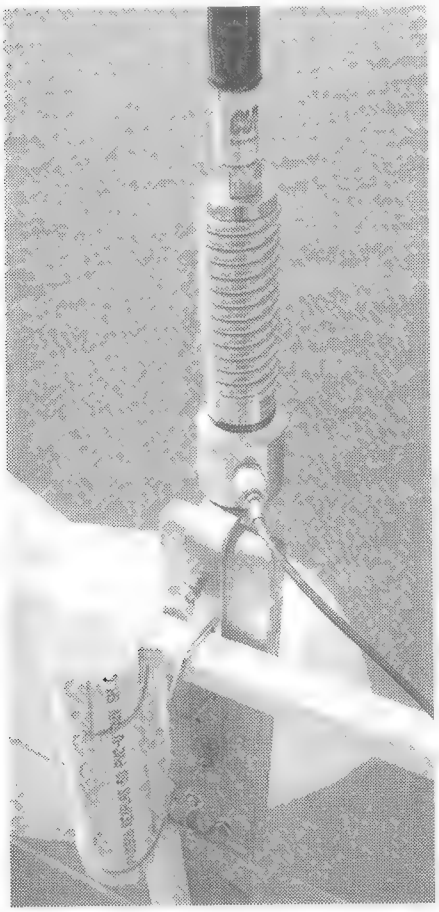

Photo 3 – The mount and spring for the Outbacker antenna (see text).

Now for the tuner: I have an EAT300 from years ago but it was a bit of a hassle because I wanted to play radio propped up in bed and I also wanted to tune the antenna at the feed point. Using the EAT300 would mean putting down my beer and getting out of bed. So I just rationalised. We were going on a holiday to have fun and it was costing a heap. I have always lusted after an auto tuner. So I wrote away and ordered one of those SG-237 auto tuners. I will be able to use it for years and years I told myself.

The rig I intended to use was a Yaesu FT817 which is only capable of about five watts (the IC706 was a bit big to take to bed with a beer). So I needed some power. I bought a small HF amplifier from a member of our local Waverley Amateur Radio Club. The intent was to set the amplifier up next to the tuner and run co-ax and a light power cable down to the FT-817 in the cabin.

The system is starting to come together. All I have to do is to connect it up to the battery to make it work. I set out with some relatively heavy (I thought) figure eight cable and put connectors on for the amplifier, the tuner (it needs a bit of twelve volts when it is tuning), the FT-817 and a spare connector just in case. It was hard to guess the cable length so I made it a bit longer. I put big (battery terminal size) alligator clips on the other end with a 35 amp fuse in each line just in case the cable got crushed and shorted. I also took some other cables with alligator clips so we could charge mobile phones and (particularly) so my wife could use her DVD player and her twelve volt hairdryer. She should be allowed some toys too.

As a shakedown test, I set the gear up in the back yard and made a few contacts. I was satisfied that the system worked. I packed the lot up and it all (apart from the telescopic mast) fitted in a slightly large shopping bag from the hardware store. I turned it around so I could not see the advertising on the bag. I added a multimeter and a few basic tools.

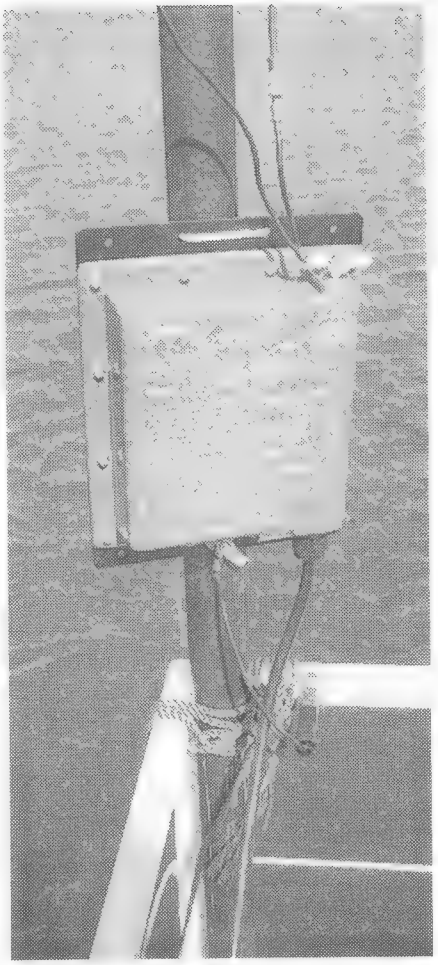

Photo 2 – The SG-237 auto tuner mounted at the base of the ten metre extendable fibreglass rod antenna.

The Clarence River flows through Grafton and Maclean, and enters the sea at Iluka and Yamba, one on each side of the opening. We hired the boat from Brushwood, a one pub village about twenty kilometres out of Grafton. We drove from home in Sydney to Taree the first day and talked to Noel VK2ZNS on the local repeater. On holidays, we try to drive only four hours a day so we have time to look at places we would not ordinarily see. It was nice to talk to Noel because I had not spoken to him since he left Sydney quite a few years earlier. He said he tries to answer all calls on the local repeater so that travellers at least get an answer. Most appreciated Noel.

The next day we drove to Grafton where we discovered that the whole town was locked and deserted. Only one pub was open. Eerie. Walking down the street felt like the day after the neutron bomb. It was 35 degrees and it seems the whole place goes to the coast where it is several

Photo 4 – In my comfortable marine mobile operating position.

degrees cooler. Anyway, the supermarket was open and we were able to buy supplies and some liquid ammunition.

After breakfast and another visit to the supermarket, we went out to the base at Brushwood and made our acquaintance with *Idyll Daze*, our home for the next week. When we stepped on board the boat, I discovered that it was aluminium, so the slightly heavy copper pipe with the ugly soldering was not required. Eager to get going, we dumped all our gear and necessary supplies on board and set off on our little odyssey.

I did not put the antenna up before we left, for several reasons. Firstly, there were overhanging trees at the base. Secondly, we had to go under a low bridge close to the base, and thirdly, I was too impatient and I wanted to go then and there. So we set out.

We headed downstream and anchored for lunch. Then I set up the antennae and had a swim. The ten metre telescopic mast was set up in the corner of the rail on the upper deck. I used Venetian blind cord to tie the mast to the rail and to tie the tuner to the mast. The ground side of the tuner was attached to the rail with the large (battery terminal size) alligator clip I attached at home. The radiating element of the antenna is a piece of copper power wire attached at the top and wound a few times around the mast to stop it sagging away. The top of the mast is VERY bendy. Some insulating tape was also useful.

The Outbacker antenna was set up on the rail on the opposite side. The stainless steel bracket I manufactured and attached to a plank worked perfectly. I just bolted it on with the U-bolts as intended and it stayed there the whole trip. I did not connect the Outbacker initially.

As planned, I put the amplifier on the deck and attached it to the tuner and the power cable. In the back yard, I had set everything up next to the antenna and made it go. However, on the houseboat, I wanted to operate propped up in bed in the cabin. But the power cable went upstairs to the sundeck. So I demonstrated that the system was operable and went downstairs to check if the beer was cold enough.

Later, we moved on down the river and anchored for the evening in an idyllic looking place. As darkness was gathering, we made some dinner and watched the lightning in a thunderstorm on a nearby hill. The storm looked like it was passing us by. A couple of minutes later it was on us just as the dinner hit the table. In a matter of five seconds the wind turned from five knots from the north east to fifty knots from the south east. It hit us on the side blowing the clock off the wall and the food off our plates. My wife saved the bottle of wine. We were driven across the river as though we did not have an anchor down. The motor had not enough power to stand the boat into the wind so we just went sideways with the maelstrom. Luckily, we were driven into the entrance of an inlet called the Broadwater. The anchor caught when we had less than a foot of water under the keel.

When the wind abated, we discovered the dinghy swamped and the oars gone. We collected the steak and put it through the griller to treat whatever was picked up off the floor. We never did find the salad. My wife produced the two remaining wine glasses and what was left of that good bottle of wine. "Are we having fun yet, dear?"

When the wind abated, we discovered the dinghy swamped and the oars gone. We collected the steak and put it through the griller to treat whatever was picked up off the floor and warm it up a bit. We never did find the salad. As the wind dropped to about fifteen knots, we sat down to what was left of dinner. My wife produced the two remaining wine glasses and what was left of that good bottle of wine. Then she asked "Are we having fun yet, dear?" The wind was calm an hour later and we had a good night's sleep. Welcome to the Clarence River!

Next morning we motored further downstream to Maclean. We arranged for a replacement pair of oars. Then I spent an hour scouring the town trying to find some suitable power cable and some connectors. My wife was not amused because she does not like that kind of shop and really just wanted to have a cup of coffee and a cake in one of the lovely coffee shops in town. We did, but I wanted to get the cable before we got too settled. All satisfied.

Later, we motored a few kilometres downstream and anchored in a lovely inlet, where we had some lunch and a swim. The water was thirty degrees Celsius. Doesn't everyone take an inside/outside thermometer with them on holidays?

I actually played some radio in the afternoon and dropped in on Col's Net. In the evening, I played a bit more radio. The setup worked beautifully on 40 metres. However, with the amplifier on high power there was a big voltage drop and associated distortion. I dropped the power a bit and lost the distortion. I tried all the HF bands and they seemed to tune quite well. However, most of my contacts were on 40 metres for no reason other than I felt like it.

The next day we set off downstream to Iluka and spent a couple of pleasant evenings anchored in the little harbour. The locals seemed to spend the daylight hours of New Year's Eve with vigorous exertion water skiing around the place so it was no surprise that they all seemed to be in bed by 10 pm. At this stage I must apologise to all the contacts I made because I have misplaced (lost) my log notes. One contact was a guy in Victoria who said he had a friend who owned a yacht and was presently anchored in Iluka but he could not remember the name of the boat. I looked out the window and

suggested the name of the boat anchored next to us. That was it! What a co-incidence.

Next morning I joined the yachties net on twenty metres and said hello. We had an eyeball from boat to boat but time and the very swift tide were against us making closer contact. We wanted to see Yamba (just across the river) and then move upstream with the tide rather than against it.

We spent a pleasant day in a little backwater channel between Yamba and Maclean. However, I did have one little emergency when my wife casually asked if my antenna would fit under the 11 kV power lines just ahead. A very quick stop and an about turn was in order.

As I went up to the top deck I found what had made the noise I had heard a bit earlier. I thought at the time that it was the wind blowing a chair over on the sundeck upstairs. The sound was a bit like a billiard ball rolling down the stairs. What actually made the sound was the extendable antenna mast un-extending itself with a bit of help from the wind. Apparently, one of the lower sections loosened and dropped and, as it hit the deck like a billiard ball on the stair, the next section was loosened and dropped too, and so on till there were only two sections standing. Well, at least I would not have collected the 11 kV power line. But we were very, very careful after that little episode.

We went on upstream the next day, and had lunch and dinner in Maclean before moving out onto the river to anchor over night. After Maclean we moved further upstream to the historic little town of Ulmarra which has a nice pub with properly cold beer. Our last night was spent in a quiet little channel with yet another wild thunderstorm, but this time the anchor held.

I did not use the Outbacker antenna a lot because I wanted to tune around a bit and the Outbacker is best suited to use where people want to work a particular part of a band. At the time of this trip, the weather was about thirty five degrees Celsius every day so I was particularly disinclined to stand in the sun adjusting the antenna. But I was impressed. I just have to find part of the old Falcon that is stiff enough not to buckle when I bend the support spring. I always need a project!

Although I did not play a lot of radio games, we did have a good holiday. In answer to the question at dinner on the

Silent key

Chris Jones VK2ZDD

I met Chris Jones for the first time about two years ago, when momentum was gathering for the formation of a new national WIA, and he invited me over to his place in Menai one Thursday evening. The diverse backgrounds of other guests, and the convivial spirit which filled the place, resulted in this becoming a regular social event for me. It was over many meals and glasses of wine that I learned something about Chris' past and his hopes for the future of the WIA.

He was very active on 2 m in the 1970s, and was a frequent visitor to the old WIA establishment at Atchison Street, St. Leonards. He was a conspicuous member of the younger section of the Sydney VHF Group, who injected new life and a good deal of frivolity into an otherwise staid group of old hands.

His interest in amateur radio was re-kindled about four years ago, and he was one of the prime movers in the founding of the new WIA. He vigorously expended much effort to get the new organisation under way. He was on the phone sorting out WIA matters from his sickbed the evening before he died.

In professional life, he was one of the founders of Zener Electric, a very successful company in the field of power electronics and variable speed drives. His regular business trips overseas established a large number of friends in many countries.

But the genial Chris Jones will be remembered mostly for his hospitality, which was extended constantly from his home in Menai. It was a regular meeting place for an amazing variety of people, a large number of them from the amateur radio fraternity. He was a wonderful host, whose intelligent conversation and dry wit enlivened any gathering. The enthusiastic welcome lavished on all visitors by Chris's faithful labrador Max somehow reflected his master's approach to the world at large.

Chris Jones will be sadly missed by his friends in amateur radio, and the many in this country and beyond who had the good fortune to know this remarkable Australian.

ARNSW extends its deepest sympathy to Chris's sister Anne and her family.

submitted by Owen Holmwood VK2AEJ
Secretary ARNSW

An isolation unit for answering machines

A control unit providing telephone line isolation and removal of mains power from an answering machine during stand-by periods.

P Anderson VK2GPT

This offers protection against the damaging effects of mains supply surges and telephone line transients.
Owing to minimal power consumption, battery operation of the unit has been adopted.

Circuit description

On receipt of an incoming telephone ringing signal, the isolation unit connects the telephone line and the mains supply to the answering machine which starts recording an incoming message. After a period of about three minutes the unit switches to stand-by mode in readiness for the next eventual incoming call.

To reduce the possibility of false triggering caused by invalid signals that may occur on the telephone line, such as transients, a DC signal of required amplitude is applied to IC1 only after reception of a pre-selected number of ringing cycles. This delay is achieved by network elements ahead of IC1.

With IC1 activated, monostable IC2 triggers and its output at pin 10 goes high for a duration of about three minutes. This causes current to flow through Q2 and activates solid-state relay IC3 to restore power to the machine. Concurrently, relay RL1 is energised and connects the telephone line to the machine.

Four "AA" alkaline cells supply current to the isolation unit, which draws 165 µA on stand-by through a low drop-out regulator IC4.

When a large number of incoming calls is anticipated, type "C" or "D" cells are advisable.

Construction notes

One of the dual multi-vibrators in IC2 is not used and consequently it is necessary to link the relevant pins of IC2 to VDD or VSS in the manner shown in the diagram.

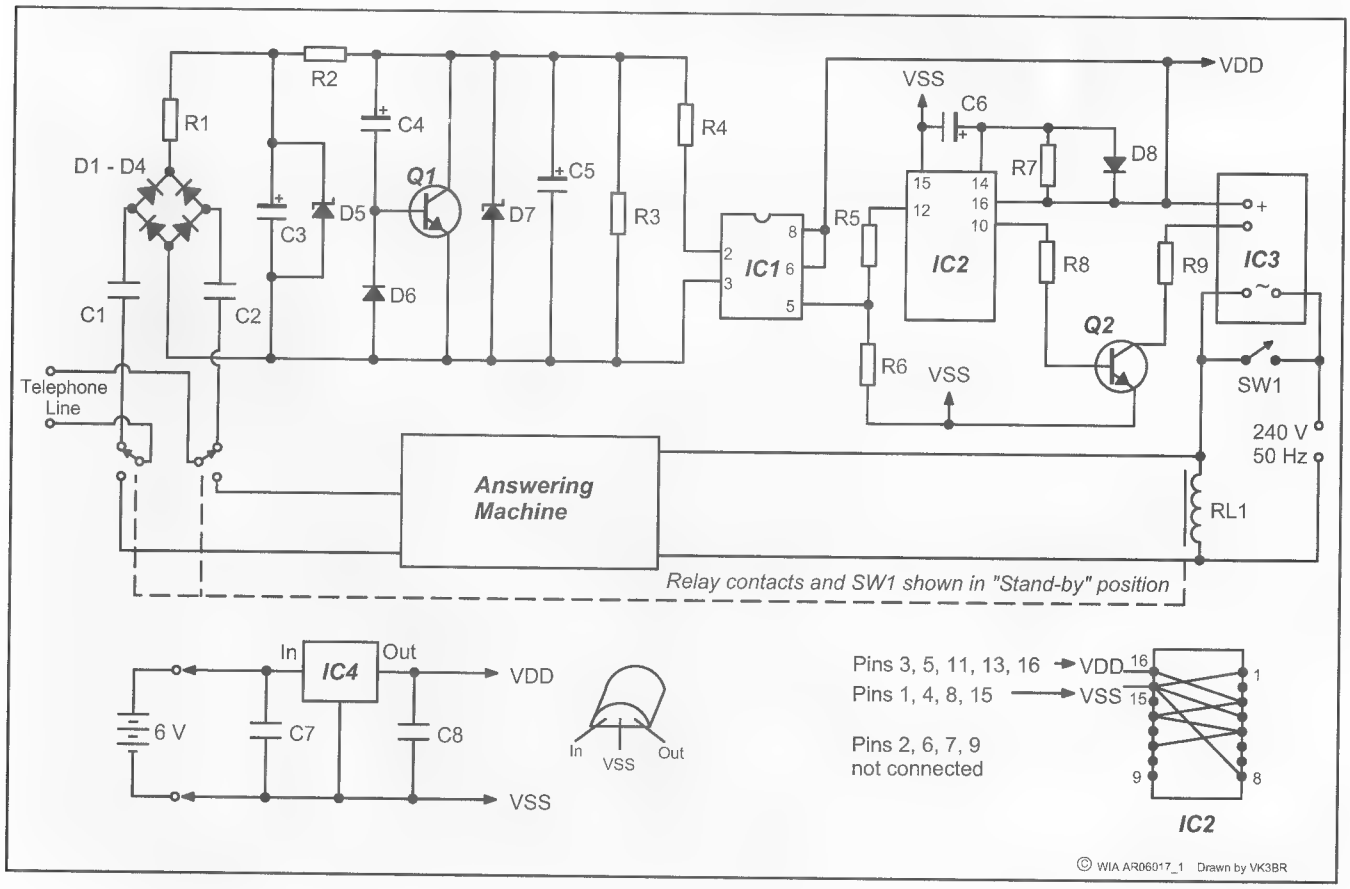

Fig 1 – Circuit diagram of the isolation unit.

For safety considerations, all mains-carrying wires and components must comply with wiring rules. To avoid erratic triggering, all mains-carrying leads must be distanced from other leads and especially from the inputs of IC1 and IC2.

All components are mounted on Vero board except for RL1 and IC3 which are affixed onto an earthed shielded partition. C6, R7, and D8 should be mounted very close to pins 14, 15, and 16. R5 should be mounted close to IC1 and IC2, and R4 close to pin 2 of IC1.

No effort was expended in optimising the type of relay and IC3. The units used were readily available when the prototype was built.

Operation

On connecting the snap-on clips to the battery, the unit instantly activates IC3 and RL1 for a duration slightly longer than three minutes, after which the unit is ready for use. For calls of longer duration, the three minutes period can be extended indefinitely by operating switch SW1 located on the unit's front panel. At the end of the conversation, SW1 should be returned to its normal stand-by position.

The monostable period of three minutes can be shortened, if one so desires, by reducing the value of C6. In the prototype, the number of ringing cycles elapsing prior to the machine switching "on" can be changed from two cycles, when R4 equals 10 k, to five cycles when R4 equals 33 k.

Components

R1	100 k, 0.5 W
R2	100 k, 0.5 W
R3	1 M, 0.25 W
R4	10 k, 0.25 W
R5	10 k, 0.25 W
R6	10 k, 0.25 W
R7	1M5, 0.25 W
R8	100 k, 0.25 W
R9	1 k, 0.25 W
C1	1.5 µF polyester, 250 V
C2	1.5 µF polyester, 250 V
C3	3.3 µF tantalum, 35 V
C4	33 µF, 16 V
C5	47 µF tantalum, 16 V
C6	100 µF tantalum, 10 V
C7	0.1 µF ceramic, 50 V
C8	100 µF tantalum, 16 V
D1 to D4	Bridge rectifier
D5	33 V Zener diode, 1 W
D6	GEX34 germanium diode
D7	5.1 V Zener, 1 W
D8	1N914 diode
IC1	Opto-isolator 6N138
IC2	Monostable MC14538B
IC3	Solid state relay by Arkansas
IC4	LM2931 regulator from 'RS' stock # 640-018
RL1	250 V AC relay by 'Omron'
Q1	BC639
Q2	BC147

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Specifications

Antenna	TEV-4	TEV-3	TEV-3 Warc
FREQUENCY	7, 14, 21, 28 MHz	14, 21, 28 MHz	10, 18, 24 MHz
ELEMENT HEIGHT	4090 mm	3800 mm	5025 mm
FEED IMPEDANCE	50 OHM	50 OHM	50 OHM
MAX. RADIAL LENGTH	10.7 Metres	5 Metres	7.5 Metres
SWR	1.5 or less	1.5 or less	1.5 or less

Email: rawmar@hotkey.net.au

40 Blackburn Street, STRATFORD, VICTORIA 3862 AUSTRALIA

Radio skills needed for international disaster relief work

Have you ever thought that as an amateur radio enthusiast you may well have the type of skills that could be used in international disaster relief work? A major need in disaster situations, for example the earthquake in Pakistan or the tsunami in Asia, is to establish the relief operation bases as rapidly as possible in order to facilitate the humanitarian response, and radio communications are essential to this.

If you have the skills and practical experience to establish a stand alone HF network, or set up a VHF/UHF network using a duplex repeater, experience with setting up satellite phones, or microwave connections or data communications generally, or setting up a power supply with generator and batteries, coupled with an interest in using these skills in humanitarian work, RedR Australia is interested in hearing from you.

RedR Australia is a not-for-profit organisation, which provides a register of technical experts that various United Nations agencies can call on for short-term disaster relief work. It is mainly funded by AusAID, the Australian government's international aid agency, and this funding helps provide deployees with a salary whilst on assignment – the usual length of assignment being between three and six months. And you're not sent off to these international disasters without having attended the RedR Australia training courses which assist you in preparing for aid work and the personal health and security issues of being deployed in a disaster relief setting.

It's not just telecommunications experts that RedR Australia needs; skills in information communication technology generally, civil or structural engineering, surveying, planning, water and sanitation, logistics and air operations are always in demand. To find out more about what RedR Australia does, and how you might apply to join its register, telephone Rhodri Wynn-Pope on (03) 9329 1357 or 0418 328 785, or the next time you're on the internet, check our website http://www.redr.org/australia.

RedR Australia is a humanitarian organisation whose mission is to relieve suffering in disasters by selecting, training and providing competent and effective relief personnel to humanitarian relief agencies worldwide.

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Mark Tell, a RedR Australia register member, aligning a duplexer for a VHF repeater, Middle East

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How to make contesting a little easier

Vince Henderson VK7VH

I have dabbled in contests for 30 years. I will never forget my first contest, the 1977 Remembrance Day Contest. I was still studying for my Novice licence. I thought that I would have a go at the SWL section. I felt sure that it would give me a few operating clues for when I eventually got my licence. I used a Realistic DX 160 receiver. My score was over the top. I managed to log over 1,400 contacts. I knew that I would need to re-write the log. You could imagine what it may have looked like, scribbling down contacts at the rate of three to four a minute.

I kept putting off the chore of re-writing the log. This was a mistake as, by the time I was close to finishing, the contest log submission date had passed. All that work and no chocolates! Never again would I miss a log deadline. I was hooked. It was the start of a love-hate relationship with the world of contesting.

Over the past few years, I have been developing the potential of the computer power in my shack. I have tried many different logging programs and contesting tools. After many attempts, I finally have a system that is easy to use and has rekindled my contesting spirit. I want to share some ideas with you that may make contesting a little easier and even more rewarding for those that like to just go for it. I only use phone or digital modes in any contest I enter. I do not like CW. If you do like CW, then that is a good thing.

One of the biggest hassles with any contest is putting the log submission together. Paper logs make things harder than they should be. Many people tend to use a paper log and then re-enter all the log information into some sort of computer based word processing or spreadsheet program. You are not on your own. I did this for many years. What a chore! There is a better way.

The lynch pin behind my set up is the ability to interface my computer with my radios. There are fancy programs available that have the ability to do some amazing things like remotely controlling an entire station. I have those sorts of programs and, whilst some are challenging to use, my contest set up is about as simple as I can make it.

Simplicity is the key to a good contest set up. The less there is to go wrong, the better. I have an all dancing PC that is fast and full of the latest type stuff. But, I do not use it with my radios. I do not need to. I use an old Pentium III PC with 256 Meg of RAM and about 600 MHz in speed. You could survive on much less. While I will not try and convince you that the Windows XP operating system is the way to go, it is what I use and I like it. Everything that I do with my PC-to-radio set-up is based around it.

My contest set-up allows me to replay a pre-recorded voice file for contest CQs and on-screen logging of contacts. I use a microphone and speaker headset with VOX. So, how do you put it all together?

A Pentium II at 266 MHz will run XP and it is the minimum you should use. The main point here is that you do not need a fancy PC. Having established

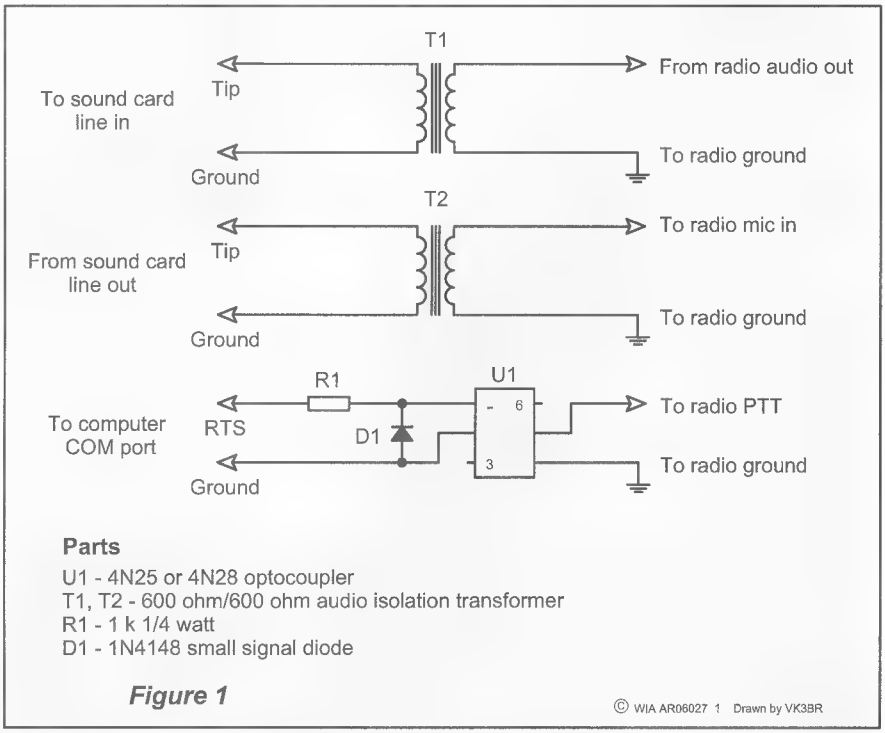

Fig 1 – A simple and effective interface.

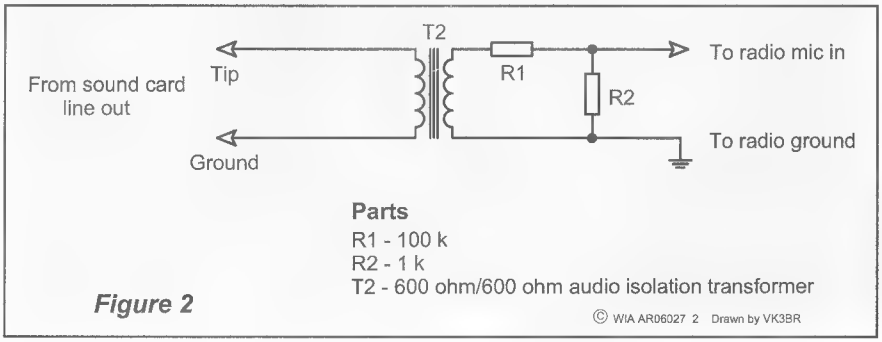

Fig 2 – A resistor attenuation pad.

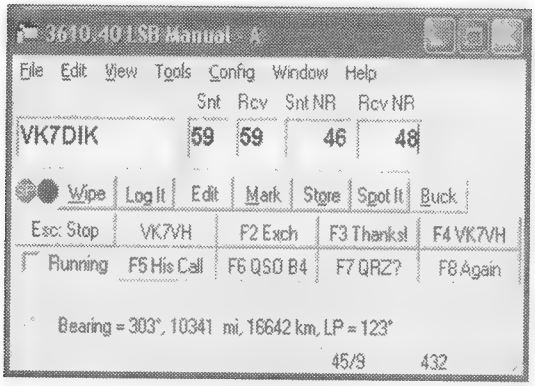
3610.40 LSB Manual - A
File Edit View Tools Config Window Help
Snt Rcv Snt NR Rcv NR
VK7DIK 59 59 46 48
Wipe Log It Edit Mark Store Spot It Buck
Esc: Stop VK7VH F2 Exch F3 Thanks! F4 VK7VH
Running F5 His Call F6 QSO B4 F7 QRZ? F8 Again
Bearing = 303°, 10341 mi, 16642 km, LP = 123°
45/9 432

Fig 3 – The main program interface.

what you need, PC wise, the next step is to interface it with your radio(s). Again, simple is sweet. The connections you need are PC sound card output to radio Tx, radio Rx out to PC sound card input, and a method of using a PC com-port output to key the radio PTT. This set up will allow you to play around with lots of amateur radio software. A basic contest set-up does not need radio Rx out to PC sound card input.

One of the biggest stumbling blocks for many amateur operators is successfully connecting an interface between a radio and a PC. There is a wealth of information on the net. Some easy to understand and some so convoluted (and with dozens of interface components) it makes you wonder if it is all worth it. I can only suggest that it is. While my set-up may not be the answer for everyone, I do think it is an easy solution.

The most basic interface is one that has a connection from the sound card output to the radio Tx input, using VOX as the PTT. This may work for some. My approach is similar, but not the same. The radio I use for contest work is a Kenwood TS-440s. It has an accessory socket on the rear panel that has a PTT switch, Tx audio in and Rx audio out. It also has a PTT mute that switches off the front panel microphone input when the accessory PTT is switched on. These accessory connections are available on most modern-day radios.

I have an interface that is simple and effective. The circuit is shown in Fig 1. The circuit isolates the computer connections from the radio. The design eliminates one of the biggest interface problems, ground loops. This is achieved in the audio lines with the 600 ohm audio transformers. The opto-coupler isolates the PTT. It is housed in a small aluminium case. I use the computer sound card mixer to control the audio input and output. I also use a small program, called Quickmix, to remember the settings for a particular program application. Quickmix is a freeware program available at www.msaxon.com/quickmix/QuickMixIn.EXE.

If the audio output from the soundcard is patched to the radio microphone input, the signal level will possibly need padding down. This is easily done by inserting a resistor attenuation pad. A ratio of 100 to 1 is a good starting point. Fig 2 shows one way to achieve this.

The contesting program that I use is the N1MM Contest Logger. All major contests are supported and the program will automatically output the log file in Cabrillo format for immediate emailing to the contest manager. It is freeware and the author, Tom Wagner, is constantly improving the program. The software is available at www.pages.cthome.net/n1mm/ along with a wealth of information and help files.

The program can be used with many of our local contests – the Remembrance Day Contest, Trans Tasman, Harry Angel Sprint and the Jack Files Contest, just to name a few. You need to adapt an inbuilt contest such as the CQWPX. The program has the ability to output a complete log in text format. The log may be imported into a spreadsheet program for final tidying and scoring, prior to emailing it to the contest manager. Experiment a little and, when in doubt, read the help files.

The N1MM logger also allows you to import a voice wave file. You can play the file at the click of a button. The screen shot, Fig 3, is the main program interface. You only need to input the call sign of the station and the number you receive. You must remember to change the band on the program if you change your radio to another band. If you have CAT control in your radio, the program will interface to it well and even record your exact frequency and any band changes.

Another nice feature is the automatic dupe look-up. If you type in a call sign that you have already worked, the program will tell you. This can be overridden when you need to work stations again, such as in the Trans Tasman Contest. The program also has a separate on-screen log file. You are able to see at a glance who you have worked. Fig 4 shows a screen shot. The program has many great features, too many to describe here. Just download it and have a look - I am sure you will not be disappointed.

Using a pre-recorded voice file for CQs will save your voice. It allows you to call more often, especially during longer contests. To record a voice file, you need to connect a microphone to your soundcard microphone input. A computer desktop microphone will do the job. You could use Windows inbuilt Sound Recorder. A better alternative is to use a sound recorder/mixer program. I have a commercial program that allows me to shape the wave form. This produces the most suitable output for my radio. There is a good program available for the job. It is called Audacity. It is freeware and is available at www.audacity.sourceforge.net/.

If this article has sparked or renewed your interest in the world of contesting, then I encourage you to have a bash. The most important thing is to have fun experimenting. I also encourage you to support our local contests. Remember, it is vital that you send in your log, even if you only make a few contacts. Good luck and happy contesting.

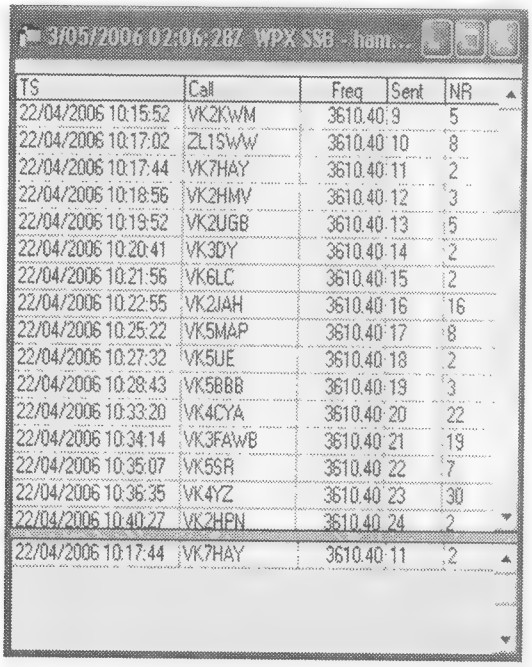

Fig 4 – The program also has a separate on-screen log file.

Operation Grassy Hill lighthouse

J R (Rossco) Anderson VK4AQ

Generally derogatory, always humorous, mainly ribald, were the comments that flew thick and fast as an intrepid bunch of radio amateur enthusiasts formed up in convoy at a truck stop outside Mareeba, FNQ, prior to departure for the International Lighthouse and Lightship Weekend (ILLW) in Cooktown on a Friday morning recently. An essential ingredient in one's character for this weekend was obviously going to be the need for hide as thick as a rhino's to cop all the well-intentioned banter that was going to be the theme for the weekend!

An eight-vehicle convoy left Mareeba at 10 am bound for Cooktown via 'smoko' and lunch breaks at Rifle Creek and Lakeland Downs. Many Amateur Radio readers would not be aware that road sealing all the way through to Cooktown was completed in the last twelve months and we were all looking forward to an easy, relaxing trip. Inter-vehicle communication was established on 146.5 MHz thus ensuring a continuation of the light-hearted banter combined with a running commentary of local history, geography and aboriginal legend by Alan VK4HBN and Stan VK4MFA, both of whom spent many, many years as timber and plant equipment men in the district. It was sometimes hard to concentrate on driving with tears of laughter often being the order of the day. Our erstwhile band of merry-makers comprised seven hams, four XYLs and one OM along for the ride.

The speed limit on the new road is 110 kph, but most of the area is unfenced so a particularly good eye had to be kept out for roadside cattle. Kangaroos are prevalent but, provided driving is done during daylight hours, 'roos are not too much of a problem. Tourist traffic, of course, was fairly high with many caravans from the southern states trying to beat the winter months.

So began the culmination of many months of preparation by team leader Mike VK4MIK, well known amateur 2 m proponent, and his jovial off-sider Dennis VK4JDJ.

As is the logistical nature of going onto a historical site such as the Cooktown Lighthouse on Grassy Hill, approvals had to be sought from the various local and state government instrumentalities beforehand. Mike VK4MIK had put all approvals from the Council and police in place in good time and we had been briefed well in advance of our responsibilities. Mike had

Photo 1 - Our "quaint" roof barely kept the sun out of the very hard working operator's eyes.

Photo 2 - The historic Cooktown lighthouse

also arranged with the local newspaper to run articles about the event beforehand and had organised media coverage for the actual day, which culminated in a fine article. The Cook Shire Council was most helpful in seeing our excursion was a success. Resident ex-hams Pat and Dave Edmonds were ever helpful and went out of their way to see we had everything we needed.

Following an evening of fun and frivolity over a great dinner at the Cooktown RSL Club on the Friday evening (Long Tan Day) it was an early morning start on Saturday getting our station up and running. The first chore was to get the centre mast in the air. Using some ingenious anchoring devices, previously welded up by Dennis VK4JDJ, we soon had it secured in position, the Australian National Flag prominent at the masthead. Guys and halyards in place, Wayne VK4ARW's inverted L dipole was very quickly up and away. After a couple of teething problems with SWR his 20 m beam was also up and performing.

Then Murphy decided to join the party.

The tent frame was very quickly fitted together - many hands making light work of that - when it was discovered that a person, who shall remain nameless, but a portly gentleman nonetheless, had forgotten to include the tent cover. After much ribaldry about by which parts of his anatomy we should hoist him up the newly installed mast halyard, a mad dash to round up a few blue tarps soon had a practical, but rather "quaint", roof over our heads. Murphy was not finished with us, unfortunately, as he paid another visit by way of a suspect N type connector, during some VHF/UHF trials we were trying to conduct back into the Cairns repeater.

The main rig, a Yaesu FT-897, was then set up, powered by a monster array of batteries gratefully borrowed from Ray VK4TFT in Mareeba. This power source coped quite well without recharge for the entire operation. For our secondary station, used for data transmission, Bill VK4WL utilised an ICOM IC-703 and laptop computer, and generated quite a lot of interest from passing tourists. Unfortunately, activity on this mode was limited and some cross modulation was experienced from the main rig.

The all important brew station followed. A myriad of easy chairs, snacks and savouries, and a couple of the quintessential Eskys, rounded the site out admirably. By then the start time deadline had been reached and it was down to the serious business of making QSOs.

Thus ILLW station VK4GHL (Grassy Hill Lighthouse) AUS083, came into being for the second year running. The station operated mainly using phone but a number of contacts were made on CW. Our efforts on digital were unsuccessful but a big improvement for next year is expected given the experience gained this time around. Manning was almost continuous, although a small break was taken during the small hours of Sunday morning when the bands became quiet.

Statistics from the station over the past

Photo 3 - The view we had to endure for the weekend

Photo 4 - The "wash up".

Photo 5 – The QSL card.

two years are as follows:

	2005	2006
VK2	6	12
VK3	2	0
VK4	4	5
VK5	1	1
VK6	1	0
VK7	0	2
VK8	0	1
VK	15	36 not lights
JA	3	2 (1 light)
NZ	0	2 (1 Light)
UA	1	1
T88	0	1 (Palau)
USA	0	1
Total	33	64

Making our good tally of contacts were Mike VK4MIK, Alan VK4HBN, Wayne VK4ARW, Dennis VK4JDJ, Stan VK4MFA, Bill VK4WL and CW operator Rossco VK4AQ.

The wind experienced on Grassy Hill during the period can only be described as intense. It probably averaged about 15 - 20 knots for the most part, with gusts to 50 knots on occasion. Unfortunately, we were perched on the face of a rather steep bank and, on a couple of occasions, the more fleet of foot had to scarper down this embankment in pursuit of seats, documents or other odds and sods that were dislodged because of the wind.

Regrettably, all good things had to come to an end and, by lunchtime on Sunday, the site had been broken down, gear safely packed for the long trip home, and 'emu parades' of the area conducted.

During a wash-up over 'smoko', we kicked around ideas where improvements could be made and these were noted for next year. All agreed that from a technical point of view, the weekend had been quite successful. Socially, the camaraderie and fellowship was second to none, despite having to have a hide about four inches thick at times. It was indeed good to get away from the pristine environment and refinements of the home "shack" for a while and to see how things really do operate under less-than-ideal conditions.

Only one thing remained to be decided in open forum and that was where to next year? The answer? Grassy Hill Lighthouse, Cooktown, of course.

Mackay at the Pine Islet Lighthouse

2006 Lighthouse weekend 19th and 20th August at Pine Islet Lighthouse (AUS127) now located at the Mackay Marina complex.

We started to setup at 09:00 on Saturday for the 10:00 AM start, and by about 10:15 we had our first set of radio equipment setup and were making contacts.

We were using the Kenwood TS-830S of mine (VK4AKV) with the Kenwood AT-230 tuner of George's (VK4AJL) and the 3 wire Bushcom antenna of Roy's (VK4HRO).

Shane (VK4KHZ), loaned us a Yaesu FT-ONE HF Amateur radio, an FL-2100Z Linear amplifier and a Multiband vertical antenna for the weekend.

We also had an ICOM IC-208H 2 m VHF/UHF radio for local contact and to broadcast the WIA news on Sunday morning, and a quantity of handhelds because we can!

During the time spent at the lighthouse we made about 88 contacts using the club callsign of VK4WIM. These contacts were mostly to Australia and New Zealand but we managed to get to Russia, the Caribbean islands and the US of A.

We had 36 lighthouse contacts and of these there were 24 different lighthouses

As we were about to start packing up we made our last contact to K6AA located at lighthouse USA621 Point Fermin, San Pedro our only international lighthouse contact!

Mackay Amateur radio association members at the event:

VK4AKV Kevin, VK4AJL George, VK4NRA Gus, VK4KHZ Shane, VK4FTDX Thomas, VK4FMKY Neil, VK4FSPM Chris, VK4HRO Roy, VK4HOG Tony, VK4NPF Bruce, VK4JWG John and VK4AAU Bob

List of lighthouses contacted

Some on more than 1 band, some more than once during the 2 days

If you want a copy of the log please let me know and I can email it to you

AUS024	AUS149
AUS027	AUS154
AUS033	AUS158
AUS045	AUS166
AUS071	AUS170
AUS083	AUS175
AUS085	AUS218
AUS103	AUS226
AUS110	AUS281
AUS113	NZL016
AUS119	NZL033
AUS142	USA621

Westlakes ARC at Norah Head

Frank Lusa VK2FJL

The International Lighthouse/Lightship Weekend is over for another year. Westlakes ARC activated Norah Head as VK2ATZ portable, while throughout the commonwealth approximately 30 other amateur stations activated lighthouses in a bid to attract public awareness and promote the preservation of these structures that served the maritime community for many years. They are in danger of being left to decay, now that technology in the form of satellite navigation have taken over their purpose.

Westlakes has only been actively involved in this weekend for the past three years. Mike Dalrymple GM4SUC, who sadly passed away last December, first introduced the event seven years ago. During the previous two years, thanks to the generosity of the Norah Head Search and Rescue Base, Westlakes ARC operated with success from that site. This year, thanks go to The Central Coast Tourism who were in part instrumental in gaining permission from The Norah Head Lighthouse Trust to operate Club Station VK2ATZ from within the Lighthouse grounds, giving our claim as operating from Norah Head Light real legitimacy (In the past, we could only claim to be in the vicinity).

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Tri band HB 35 C 10/15/20 m		$745
3 ele 20 m comp opt		$460
log periodic 9 ele 13 30 8.4 boom		$1050
NEW 160 m vertical	(SUBURBAN)	$355
40 m linear loaded 2 ele beam		$595
M B Vert auto switch 10/80 m		$330
6 m 7 ele yagi beam 60 mm boom		$387
6 m 5 ele comptr opt beam		$275
Top loaded 160 m vert		$430
10 ele high gain 2 m 3.9 m boom		$149
17 ele high gain 70 cm 3m boom		$139
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INTERNATIONAL LIGHTHOUSE & LIGHTSHIP WEEKEND

Endrulat, realising the Public relations potential in having Amateur Radio promoting both Lighthouses and our hobby, arranged the distribution of flyers throughout the Central Coast as well as interviews on the local radio stations and newsgroups. The culmination was an NBN Television news crew arriving on site during the event.

Pete VK2YPW volunteered the use of his pop-top van as a mobile station; this unit had served us well in our two previous ventures. While very Spartan in design, it served its purpose, allowing a modicum of comfort to those who manned the station.

The club had its own transceiver, power supply and antenna. Other club members assisted by loaning various pieces of equipment, thankfully including a back up power supply, which was called upon within a few hours of operation as the club's unit failed. Jim Smith, the lighthouse tour guide, assisted in installing the antenna, which we managed to hang from just below the lantern itself, some 26 metres above ground sloping down to a convenient light pole at around 6 metres. The antenna, the "Cobra Ultralight" described in a previous issue of the club magazine, tuned in extremely well on all workable bands. The set up was ready for the big event by late Friday, thanks to the assistance of Paul VK2BPL, Keith VK2PKT, Allan VK2JED, Warren VK2UWP and Russ VK2KEG. Allan and Warren volunteered to stay overnight and carried out some on air test transmissions. Saturday dawned bright and clear leading into a perfect weekend weatherwise. Some concern was felt in the early morning, when the local corellas and galahs decided to test the wire out by hanging off it in droves (thankfully it survived).

Operations began in earnest at 10 am, with several members arriving to assist in operating VK2ATZ portable. Our very first contact was a lighthouse from Tasmania's Cape Bruny working as VK7OTC on 40 metres gave us a 5x5 while he came in at 5x6.

Looking back through the log, the signal strengths seem to be generally of that order over the weekend with a few bending the needle. The initial contact being a lighthouse gave us hope for a truly historic weekend. Due to depressed bands, while over 160 contacts were made, only 19 lights were confirmed with an additional 4 not listed, all bar one being within Australia, the odd one out was a New Zealand lighthouse at Manukau South Head. The only other contacts overseas were two from the States and one from Vanuatu.

The lighthouse tours attracted an ongoing stream of visitors; several took the time to visit our setup and were suitably impressed by the quality of the contacts and appeared truly interested in our description of the virtues of Amateur Radio. The club's youngest members Jessica VK2FJES and Walter VK2FAZ arrived Sunday and were only too pleased to pick up the microphone and could be heard drumming up several contacts. Westlakes impressed the crowd, not only with their radio expertise but by a mono cycle demonstration by John VK2FJKG. The culinary exploits of Allan VK2JED successfully keeping those game enough to partake in the offerings well fed. Alec our resident BBQ chef had better look to his laurels in future.

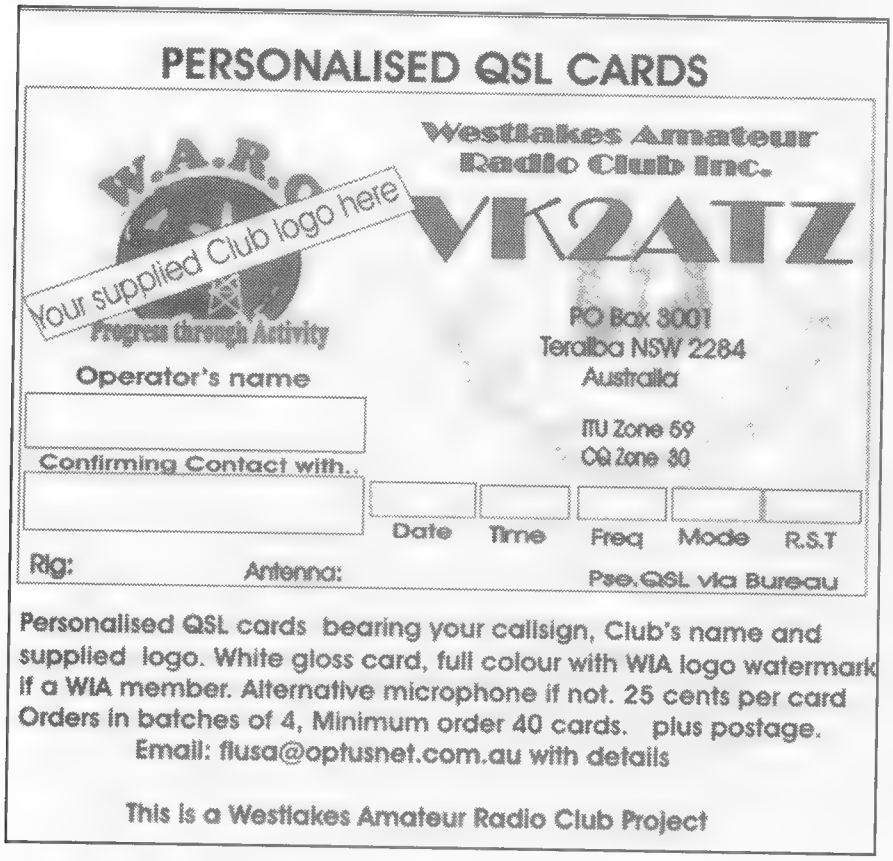
Contacts almost dried up by Sunday midday. Bearing in mind that many of our operators had a distance to travel home, we broke camp and spent a couple of hours packing the various pieces of gear away, dismantling the antenna and making the van ready for towing, ensuring that the site was left as tidy as when we arrived. Overall, a very successful exercise, with both members and the public playing their part in making for a very pleasant weekend.

I would like to thank those who assisted, not only over the weekend, but also during the preceding weeks. These events do not just happen; many hours of planning and co-ordination by dedicated members are required. Members that Westlakes Amateur Radio Club is indeed fortunate to have in abundance .Members like Allan VK2JED, who arrived Friday afternoon and stayed over for the whole weekend and in my opinion was the backbone of the event.

I'd also like to thank The Norah Head Lighthouse Trust, particularly Jim Smith and caretaker Todd for their assistance and tolerance, The Central Coast Tourism's Horst Endrulat and Joy Groves for their part in making the public aware of the event.

Let us hope we can do it all again next year.

PERSONALISED QSL CARDS



Personalised QSL cards bearing your callsign, Club's name and supplied logo. White gloss card, full colour with WIA logo watermark if a WIA member. Alternative microphone if not. 25 cents per card Orders in batches of 4, Minimum order 40 cards. plus postage.
Email: flusa@optusnet.com.au with details

This is a Westlakes Amateur Radio Club Project

ORARC Inc. 2006 Lighthouse Weekend Operation at Tacking Point

Bill Brooke VK2ZCW

Members gathered at 0830 local to load up equipment from the Clubroom before proceeding to Tacking Point lighthouse site. Getting the tent up was a challenge and created lots of fun, due to winds of up to 30 knots, which blew throughout the operating period. Visiting the site during the day were Charlie Vella VK3TCV and Des Thompson from Lord Howe Island. Des has since joined ORARC, sat and passed his Foundation Licence assessment and awaits his Call. In spite of the windy conditions, all enjoyed a great day. A total of 82 contacts was made including 22 lighthouses round Australia and New Zealand.

Contacts were 40 m = 64, 20 m = 10, 2 m = 6, 70 cm = 2.

Jim Neil VK2VIV, Alan Nutt VK2GD and Neil Sandford VK2EI in the operation nerve centre.

Des Thompson, Bruce Walker VK2HOT, Arthur Monck VK2ATM with the Tacking Point Lighthouse in the background.

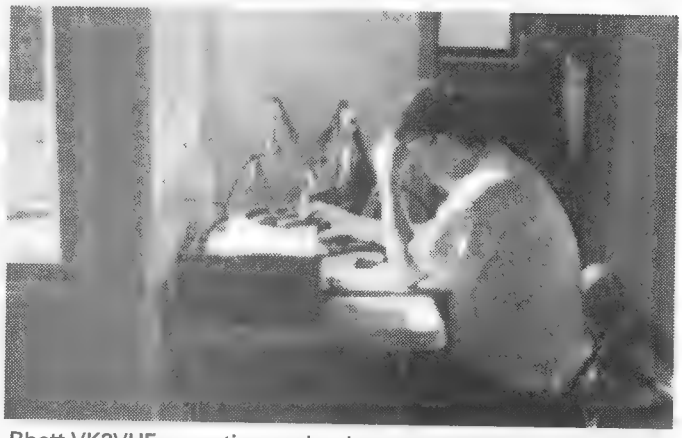
East Gippsland Amateur Radio Group goes to Point Hicks

Linda Stanford VK3VLS

Continuing from previous years, the East Gippsland Amateur Radio Group travelled to Point Hicks Lighthouse on Friday 18th August to participate in the annual International Lighthouse/Lightship Weekend. This is becoming somewhat of a tradition for the group now, as this is the fourth year that the group has travelled to Point Hicks to participate. Enthusiasm for this event is strong, ensuring plenty of future participation.

Point Hicks Lighthouse is on the southern coast of Australia, in the East Gippsland part of coastal Victoria. It was here that the first sighting of Australia was made during Captain Cook's voyage to the great south lands in 1770. It was named Point Hicks in honor of Lieutenant Zachary Hicks who first saw it. The area

This shows the antenna's set up the Inverted Vee's set up in the background



Rhett VK3VHF operating under the group call sign of VK3EG at Point Hicks

Up it goes! Rhett VK3VHF and Mark VK3MOA preparing to erect a 2 element Triband Yagi 10 m 15 m and 20 m

became known as Cape Everard, and the original name of Point Hicks was restored in 1970 for the Bi-centenary of Captain Cook's voyage.

The lighthouse was built in 1887-1888, together with its accompanying wooden lighthouse keepers' houses and the surrounding sturdy granite walls. It was built of cast concrete, an innovation at a time when most lighthouses were built of stone, and at 38 metres (130 feet) is believed to be the tallest concrete lighthouse ever built in Australia.

Arriving Friday gave the group members plenty of time to set up an 80 and 40-metre Inverted Vee Antenna. A 2-element Tri-band Yagi Antenna for 10 m 15 m and 20 m was set up as a second station.

The group HF radio was set up in the cottage, as well a 2 m FM radio was set up to keep in contact with late comers, as some got away from Bairnsdale at around 2 pm and some had to work till 5 pm. A few calls were put out to test the waters and all was in readiness for an active weekend. The group members selected beds and rooms for the night (or decided which was the most sheltered place for the swag) and retired for a well-earned rest.

No one reported any sightings of the resident ghost but everyone was eager to see a whale, as has happened on previous occasions.

Saturday began in fine style with contacts flowing thick and fast. The VK3EG group made over 130 contacts, which included 32 lighthouse stations.

The rest came from people wanting to contact a lighthouse and find out information about it. Countries contacted included Australia, New Zealand, USA, England, France, Austria, Russia, Germany, Greece, Italy, Switzerland and Norway .The group had contacts with Lighthouses in all states of Australia.

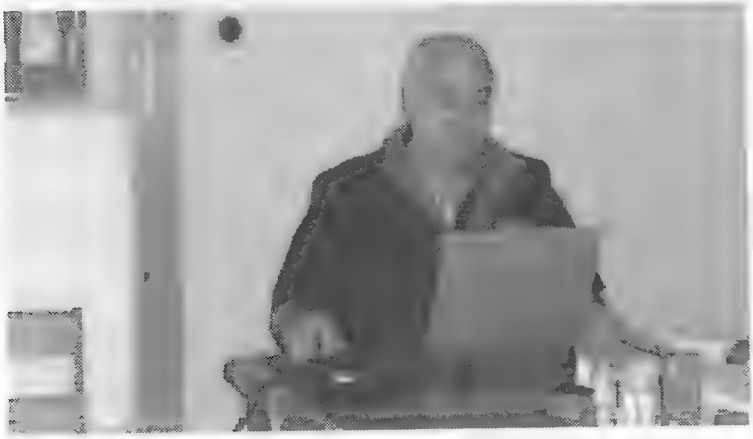
Rob VK3EK had taken on the task of catering for the group. However, old habits die hard, and he just had to grab that mike for a few chats and contacts. After the wonderful meals prepared by Rob and eagerly consumed by the rest, it was amazing that anyone was awake enough to speak to anyone in the rest of the world.

Saturday continued late into the night as conditions changed and paths opened up or died away. Eventually Point Hicks closed down for the night and all members retired.

Sunday found everyone up and eager to continue making contacts, fuelled

Rob VK3EK taking a break away from the kitchen to add a few more entries to the log

Mark VK3MOA making contact with other lighthouses.



Col VK3BLE updating details of contacts

This was the second station on 10 m 15 m and 20 m L/R Rhett VK3VHF and Rob VK3EK

by lots of breakfast. In spare moments, binoculars were used frequently to scan the horizons in search of whales and other interesting sights. No whales were spotted but much time was spent watching the antics of the resident seal group who are to be found floating in the sea just off the point, mostly holding one flipper aloft and often surfing the waves. Ships were also observed and members spent some quality "me" time walking, reading and snoozing. There was time for everything!

In conclusion, it was a great weekend: great contacts, great companionship and great food.

We're all looking forward to next year.

ILLW 2006 and VK3WI

By Jim Linton VK3PC

Amateur Radio Victoria activated the Williamstown Lighthouse and Timeball Tower (AUS-170) for the second year in a row; however, this year it saw Foundation Licensees readily responding to an invitation to join the fun.

Coordinating the event was Terry Murphy VK3UP and while he was blessed with good weather, an operational challenge was radar-type QRM, suspected to be coming from the adjacent Naval dockyards.

The picturesque Point Gellibrand is at the head of Hobson's Bay in Melbourne's inner west. Williamstown played an important historical role having Victoria's first permanent settlement and becoming a trading port.

The current lighthouse began in 1852 replacing earlier navigation aids. The timeball (a large copper sphere) would fall at 1.00 pm and ship's captains would set their chronometers by it.

On arrival on the Saturday morning to set up for the VK3WI station, Terry VK3UP noted the serenity of the area.

After unpacking the station equipment, antennas and supplies, he ambled over to the nearby foreshore to gaze out into the harbour and reflect on the original role of the lighthouse to help mariners.

Then a quick coffee and a snack, it was back to the business of getting the station on air. Terry said, "I noticed on the mobile transceiver a lot of noise emanating from the vicinity of the Naval dockyards which is less than 200 metres away.

"There were all sorts of noises. I knew radar-type hash was going to be a problem on receive but that just makes it all the more interesting and challenging," said Terry.

"Unpacking the 80 metre dipole, I grabbed the extension ladder from the roof-rack and put it up against the flagpole before zip-tying the feed point of the dipole at about 10 metres up."

Then the operating table was set up immediately outside of the lighthouse door, power was connected and the Kenwood TS-440S turned on.

Immediately noticed was a solid strength nine noise level. "OK, first thing was to see what I could do about it.

Moving one leg of the Inverted Vee made the noise louder in one direction and quiet in another," he said.

"This further proved my theory that the noise was indeed coming from the dockyards. Placing the dipole end on to the dockyards there was at least a 3 dB drop in the noise level."

Another well-earned cup of coffee was consumed while a show-board of colourful QSL cards and a brief explanation of the International Lighthouse and Lightship Weekend were put up.

The activation began at 1109 hours local time. Putting out a call resulted in contact with Bob Battistuzzi VK2JUB at Evans Head Lighthouse (AUS-175).

Next was home station Tony Middleditch VK3CAT who popped up for a chat, followed by operator Norman at the Bayside District Amateur Radio Society VK4BAR activation at Cleveland Point (AUS-130).

Moving down to the 40 m band, Tim Hunt VK3IM jokingly put in a claim for a new needle for his S-meter as a result of the 60 dB over S9 signal coming from VK3WI. Tim, who lives in Footscray, not far away, opted to bring his Morse paddle to the site and give CW a try.

Michele Grant VK3FEAT who made contact from the other side of Melbourne was very interested in the ILLW activity. She offered to assist on the Sunday. Another Foundation licensee, John Sargeant VK3FJAS, also volunteered to operate the station on both days.

On day one, the team managed to work a dozen lighthouses in VK2, VK3, VK4, VK7 and NZ as well as the special events call VI2MI on Montague Island (AUS110), plus several home based or mobile radio amateurs. It was unfortunate that Tim VK3IM could not get any takers on CW.

Around dusk on the Saturday the station closed, but was back on air the next morning.

"I was met with an even louder noise level on 40 metres. Time to try something different with the antenna," said Terry.

After surveying the tower, entering it

under the permit issued by Parks Victoria by its Williamstown ranger Edena Critch, who was extremely helpful, he climbed the internal ladders to the fourth level at about 15m above ground.

This became the new anchor point for the antenna and while Terry secured a leg of it to a fence post, Michele VK3FEAT ambled across from the foreshore car park.

"I'm planning to only stay for a couple of hours," she told Terry. "My immediate task was to answer questions from a few locals wondering what we were doing."

Passers-by had a look over the station and were impressed by the quality of the contacts, particularly from ZL land, and they learned something about amateur radio.

Soon after receiving operating instructions, Michele was down to business operating on HF, with the first contact being John operator of VK7OTC (Radio and Electronics Association of Southern Tasmania) at Bruny Island Lighthouse (AUS-024). After a spell on HF, it was QSY to the F-Troop Net on the Mt Macedon 2-metre repeater VK3RMM to invite others to attend.

When more curious members of the public stopped by to ask what was happening, it was time to demonstrate IRLP with both Terry and Michele making contact with Peggy KC7GZT and Brian KA7KUZ in Tacoma Washington, USA.

Terry was well prepared with a BBQ and while Michele operated, he cooked lunch and made a cuppa. Shortly after John VK3FJAS and Brendan Trott VK3OY joined the team.

The operation was in full swing with sharing of the mike and logging duties. The 40-metre band worked fine before switching to 80 metres after 1800 hours local. As it was getting a bit chilly, the team sought shelter inside the Lighthouse where the operating continued until about 2010 hours.

Reluctantly all stopped for the day, with Michele clocking up nearly 11 hours. "Personal highlights were operating a field station and my first maritime mobile station near Perth," she said.

"The experience has certainly whetted my appetite for portable operation which I'm very keen to pursue.

"I would certainly recommend Foundation Licensees join in on activities like this whenever they have the opportunity. Not only will you enjoy yourself, it will boost your confidence and you'll also learn a lot."

Michele is typical of many among the new breed of radio amateur eager to explore what the hobby has to offer, which augers well for the future of amateur radio.

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Got something to say about amateur radio?

Share it!

Tell Amateur Radio's editor. We always welcome suitable material.

Cover story

Radio Clubs combine for Lighthouse Weekend at Cape Jaffa Lighthouse

Tony Hutchison VK5ZAI

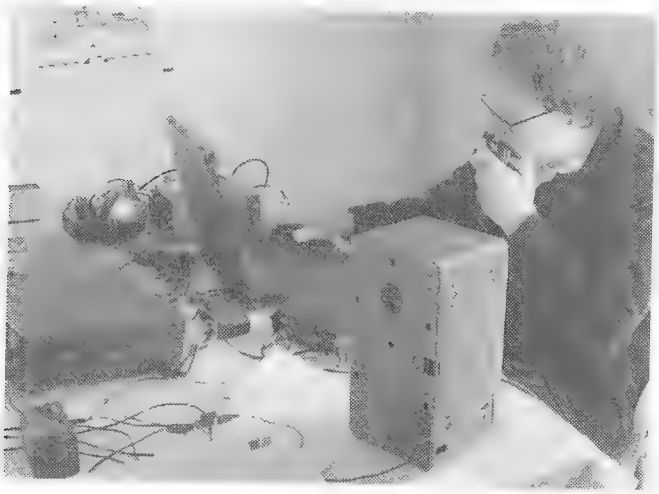
Members from the Riverland Radio Club combined with members from South East Radio Group to take part in the International Lighthouse & Lightship weekend on the 19th and 20th August. The meeting place was the Cape Jaffa Lighthouse, AUS-033 located on the foreshore at Kingston SE in South Aust.

The Clubs applied some months ago to ACMA for the special call of VI5CJ for the event.

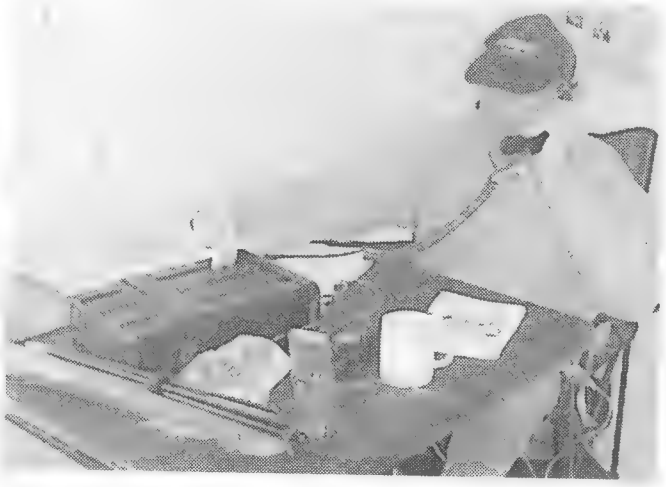
In order to get a 9:30 am start on Saturday, Tony VK5ZAI, with the help of XYL Jill, decided to setup the antennas the day before. This was a relatively simple matter as the lighthouse has two halyards hanging from the top, which are normally used to hang flags. An open wire centre fed dipole was raised on one side of the lighthouse and matched to the FL-2100Z linear amp with a tuner, and an inverted V fed with RG- 213 was raised on the other side.

David VK5HDW

Main setup



Andy VK5LA



Mal VK5MJ

Mal VK5MJ and AndyVK5LA experimented with end fed long wire antennas, Mal using his Codan portable rig.

The Lighthouse itself has six triangular shaped rooms on two levels within its structure, which were used to house the two keepers and their families during its working life on the reef.

Three separate stations were set-up in two rooms and tried to work simultaneously. However, this became a challenge with the FL-2100Z linear amp the Mt. Gambier boys brought proving too much for Andy VK5LA, who was trying to run QRP in the adjoining room. Eventually the team reached a compromise. Despite poor propagation and noisy powerlines, everyone enjoyed the weekend. Bands worked were 80, 40, 20, and 2 m.

Numerous lighthouses in Australia and New Zealand were contacted along with some good QSOs made with stations further afield. Those helping to make the weekend a success were VK5DJ, VK5WCC, VK5GA, VK5LA, VK5MJ, VK5EE, VK5DK, VK5DG, VK5ZAI, VK5HDW, and VK5KJ/4UH who flew down from Brisbane to attend.

The weekend attracted numerous visitors who were shown through and escorted up to the light room at the top.

Those wanting to QSL can go through the Bureau or direct to VK5ZAI. Tom VK5EE organised the printing of the Special VI5CJ QSL cards.

This is the second time the Cape Jaffa Lighthouse has taken part in the event and the Radio Clubs involved would like to thank the Kingston National Trust for making the Lighthouse available to them for the weekend.

History of the Cape Jaffa Lighthouse

Originally built in the 1870s on the Margaret Brock Reef, seven kilometres of the coast, the Cape Jaffa Lighthouse, AUS-033 stood for one hundred years protecting ships from the treacherous seas that had seen the demise of many ships in the area.

The original multi-wick oil burner was replaced in 1909 by a pressurised kerosene light. This light was turned off and decommissioned in 1973 and is believed to have been the last of its type to operate in Australia.

The National Trust of South Australia (Kingston Branch) successfully lobbied for the lighthouse to be dismantled and re-erected at Kingston where it could be preserved as a museum to show what life was like on the platform.

Dismantling of the lighthouse on the reef began in February 1974 and it was rebuilt on the foreshore at Kingston SE, the work being completed in December 1976. That year, the Lighthouse was officially handed over to the National Trust of South Australia (Kingston Branch), who now operate it as a museum. It is open to the public during most school holidays and weekends.

The original platform the lighthouse was erected on still stands today on the Margaret Brock reef and is now the nesting place for a large colony of gannets. Fishermen also use the landmark to negotiate their way through the channels in the reef.

Those wishing to learn more of the history can find it on the web at :-

http://www.lighthouse.net.au/Lights/SA/Cape%20Jaffa/Cape%20Jaffa.htm

Cape Jaffa Lighthouse in 1974

At its present home in Kingston

The old platform has not gone to waste!

ALARA

Christine Taylor VK5CTY

The Contest

This year's ALARA Contest was one of the best ever. Great conditions, lots of competitors, a number of Foundation licensees with good scores, and there were many OMs taking part as well. A most satisfactory state of affairs!

It was very good to hear Norah VK5NYD and her OM David VK5AYD on the air again after quite a number of years. Their QTH in Coober Pedy had more advantages than just the electronically quiet location. Their antenna is mounted on a pole immediately above their operating room – 40 feet above! With an underground house the feedline goes up the air vent. What is more they can never have complaints about the noise from their neighbours. The neighbour's house is far enough away that no noise can be heard at all.

We are also pleased that by the Monday after the Contest, Norah had already posted her renewal of membership. In fact, ALARA has probably gained several new members because the Contest was so successful. Welcome!

A sidelight to the Contest

At the ALARAMEET in Mildura, a plaque was presented to Pat VK3OZ for winning the Florence McKenzie Trophy four times. This trophy is awarded for CW contacts in the ALARA Contest because Florence McKenzie taught thousands of men and women to be able to send and receive CW during WW2, so, of course, it has a Morse key mounted on it.

This year, in the ALARA Contest Pat used this Morse key. We understand it was her OM Peter VK3VB, now an SK, who suggested Pat use that key in the Contest. Both Pat and Peter have been CW operators all their radio lives and usually have four keys (not always the same ones) in circuit so it was not too difficult to connect up a new one, but we are very pleased indeed that Pat did so.

We hope there were at least one or two other YL CW operators to keep Pat company, though most of the contacts will probably have been with her regular 'buddies'.

Gwen VK3DYL is the only 3 band DXCC YL

How well do you read your Amateur Radio? Did you see that, in the latest list of DXCC, Gwen VK3DYL is the only YL in the 3-band DXCC part of the list?

ALARA members all send congratulations, proud to be able to brag about the things our friends achieve.

Gwen has organised several DXpeditions to interesting Pacific Islands. Perhaps people seeking to gain particular countries for their DXCC chase, also gave Gwen some of her unusual countries.

Gwen has become a member of a very exclusive group with DXCC on three different bands. Maybe she will inspire others to try for the same high goal.

High award for stamps

Marilyn VK3DMS won a large Vermiel medal in the Australian Stamp Exposition, held in Adelaide in August this year. A large Vermiel medal is only one step below Gold. Yes, the Gold would have been nice again but a large Vermiel is an extremely high award.

Marilyn's theme is Communication, as you would expect and the pages make very interesting reading as they tell the story of the way man has communicated across distances, through the years. Radio is only one method used but all methods have been recognised in stamps.

In today's amateur radio climate, with the number of young people joining our ranks, one particular picture was captured by the camera: The young lass talking into a microphone should touch a chord with most of us.

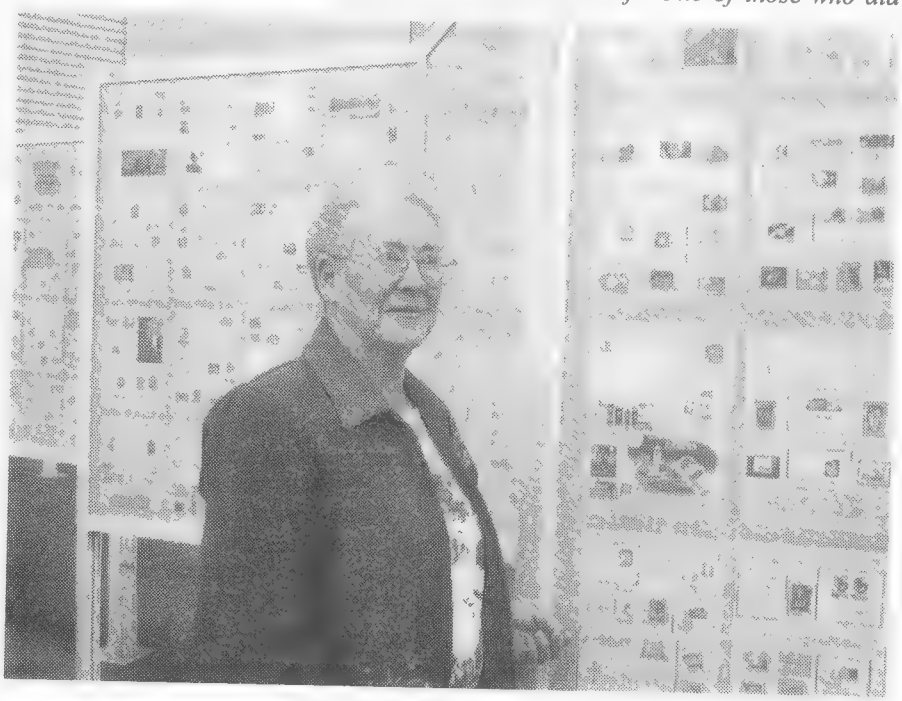
It does pay to go to these hamfests!

From Dot VK2DB

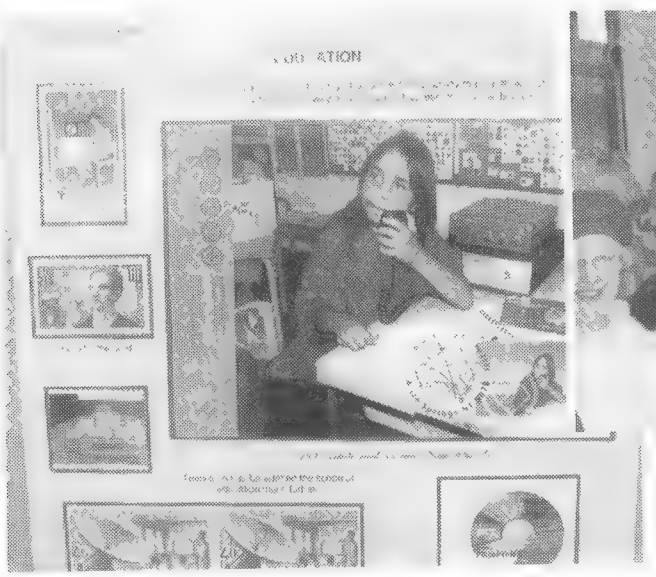
OM John VK2ZOI and I wanted to attend the Blue Mountains Winterfest, Saturday 19th August so I decided to ask, and was invited to take the "ALARA table".

We arrived in plenty of time on a glorious sunny day to set up and meet the members of BMARC. As soon as the ALARA table was set up, John left to check out the trash and treasure tables.

Only a few ladies came to the table to talk to me, but some stopped at the hall door, peered at the laden tables then turned and left. One of those who did



Marilyn VK3DMS beside her stamp display



The picture of the young operator - one of the pages in Marilyn's display

The Red Hats

stop was Betty VK2MSB from Dapto, near Wollongong. She hasn't 'done' a lot of radio yet, but her amateur son is overseas and they hope have a contact soon. I showed her the ALARAMEET photos and talked about sponsorship. I was never without company with the talk mainly being about the Foundation Licence or aerials / antennas.

Some people examining the photo album were surprised by the number of ladies in the ZL 2000 International Meet. Of the photos, the men enjoyed the photo of Mildura ALARAMEET 'men's group' and the photos of the group taste testing glasses of enjoyment on one of our fact finding trips. Many people took leaflets about ALARA and the Contest rules.

Everyone received a lucky door ticket and I put our two away very safely. Later in the day, John came rushing in saying they'd just drawn our ticket and if I didn't find it soon they would re-draw it. Yes!

John and I won the prize and you can see what a fantastic prize it was. I did not even look at the prize when I bought the tickets so was flabbergasted and so excited.

The photo shows BMARC Secretary Daniel VK2DC presenting it to me, VK2DB. Straight after the photo was taken, I was still bubbling with excitement and managed to knock John's half-litre mug of coffee over the ALARA table, the floor, everything in my bag, etc. Cleaning up my mess brought me back to earth. Must admit, John and I had a wonderful evening unpacking the basket and admiring all the goodies, and yes we did start on them.

An interesting table at the same hamfest

Herman VK2IXV staffed this table for the Royal Naval Amateur Radio Society (RNARS). The Morse keys were interesting, the information about skeds may be of more immediate interest.

Skeds are held every Saturday afternoon from the warship Vampire, which is stationed permanently at the Maritime Museum in Sydney.

There is a CW sked from 13.30 to 14.00 EST on 7020 kHz (40 metres).

And a voice sked from 14.00 to 15.00 EST on 7090 kHz.

Whether you served in the Naval forces or not, it could be interesting to make contact with the station. I am sure they would welcome everyone.

Visiting Sydney recently

Maria VK5BMT, whom you heard about a while ago when she and OM Keith VK5MT managed to speak to their daughter from the top of the only hill around, as they trekked across the wilds of Northern Australia, has now been to see the new baby. No doubt, she will have many photos to show at the next VK5 luncheon.

She also had time to spend a night with Dot VK2DB (just in time to help fold and count 1,500 newsletters for the Hornsby Radio Club!) and to see a little of the area where Dot lives. Lots of talk and lots of good "me" time, for them both.

With the membership of ALARA scattered from one end of Australia to the other, any face-to-face time is valued.

ALARA was represented at the funeral of Chris VK2ZDD

Dot and John VK2ZOI made the 100 km trip across Sydney to attend Chris' funeral, as did so many others. Dot wore her ALARA nametag and State Rep badge to represent us and to add our sign of appreciation for all the work Chris (and the rest of the WIA executive) has done on behalf of the amateurs of Australia.

ALARA luncheons

In VK5, we have the occasional Red Hat day. A photo illustrates what this means! It means we are being a bit silly and having fun. The VK6 YLs who have a regular luncheon on the last Thursday of each month might like to copy the idea. If you were in Mildura, you have read the poem about reaching the age of red hats. Have Fun!

Awards update

Malcolm K. Johnson VK6LC
WIA Awards Manager
PO Box 196 Cannington. 6987 WA
email: awards@wia.org.au website: http://www.wia.org.au/awards/

Australia Post advises that the current IRC will expire 31 December 2006. The new IRC was published on page 52 of the August 2006 issue of AR Magazine. Current IRC coupons held may be returned to a Postal Outlet for exchange for a new IRC prior to 31 December 2006 only.

The new IRC expires on 31 December 2009 and the purchase price is Aus$2.60.

National Awards postage from the 1st September 2006 has risen again, for example, we have now lost all "economy mail" for overseas postage, and we now front the cost of "Airmail charges". Cost to Europe increased from Aus$8.00 to Aus$9.75. The award fees will be deemed to rise September 2007, for this period they will stay as indicated on the Awards Website.

Updating old Federal Awards is continuing slowly: we are currently looking at new graphic designs to replace the WAVKCA-HF, Grid Square, Antarctic, VHF-CC Awards. A new award that is not far away is the long over due "Satellite Award"; all of these are subject to funding, always a consideration. For this period, the National Awards are managing and we thank many members and some sponsors who have assisted.

Conditions being down have slowed the awards tally also, just as it did last sunspot minima. Many claims are now being received by this office for the two new DXCC entities Montenegro and Swain's Island. Our next DXCC update for AR Magazine and our website will be November 2006, so try to place your updates by the first week in October 2006.

ar

"Hey, Old Timer..."

If you have been licensed for *more than 25 years* you are invited to join the

Radio Amateurs Old Timers Club Australia

or if you have been licensed for **less than 25 but more than ten years**, you are invited to become an **Associate Member** of the RAOTC.

In either case a **$5.00** joining fee plus **$8.00** for one year or **$15.00** for two years gets you two interesting OTN Journals a year plus good fellowship.

Write to
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PO Box 107
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or call Arthur VK3VQ on **03 9598 4262** or Bill VK3BR on **03 9584 9512**,
or email to raotc@raotc.org.au
for an application form.

RAOTC 30th Anniversary QSO party

Date:	Saturday, 21 October 2006.
Open	to all Amateur Radio operators
Bands:	160, 80, 40, 20, 15, 10, 6 and 2 m and 70 cm
Category:	Single Operator
Modes:	CW, SSB, FM
Times:	0600 – 0800 UTC (1600 – 1800 EST)
Calling:	"CQ OT"
Scoring:	A valid QSO requires exchange of call sign and name for all operators, plus member number for RAOTC members. 10 points per QSO with non-RAOTC members 20 points per QSO with any RAOTC member. 50 points per QSO with either VK6OTN or VK3OTN. Stations may be worked on more than one band, each contact scoring one point.
Award:	A Certificate will be available to any operator who scores a total of 250 points or more. Endorsements will be given for operators who score 200 points or more on both Phone and CW separately.
Send Logs to:	Secretary, RAOTC, PO Box 107, Mentone, 3194;
or via email to:	vk3js@bigpond.com

by 31st October to claim a certificate.

Contests

Ian Godsil VK3JS
Acting Contests Manager

Contest Calendar October – December 2006

Oct	7	PSK31 Rumble	(PSK)
	7/8	Oceania DX Contest	(SSB)
	14/15	Oceania DX Contest	(CW)
	9	10-10 International Day Sprint	(All Modes)
	15/15	JARTS WW RTTY Contest	(RTTY)
	15	Asia-Pacific Sprint Contest	(CW)
	15	RSGB 21/28 MHz Contest	(CW)
	21	RAOTC QSO Party	(CW/SSB/FM)
	21/22	JOTA/JOTI	(all modes)
	28/29	CQ WW DX Contest	(SSB)
Nov	11/12	Japan Intl. DX Contest	(SSB)
	11/12	Worked All Europe DX Contest	(RTTY)
	11/12	Spring Field Day	(VHF+)
	25/26	CQ WW DX Contest	(CW)
Dec.	26	Ross Hull Memorial VHF Contest	(VHF+)
	(to mid-Jan 06)		

Results CQ RTTY WPX 2006

(VKs only Call\Cat.\Score)

VK6GOM	SOAB High Power	124,509
VK3FM	SOAB High Power	10,325
VK2KM	SO 40 metres	193,052

Do you know this man?

Every organisation has its "notable characters" and Australian contesters are no exception. There are some operators in our midst who have done well – really well – over the years. Here is a snapshot of one of them.

John NieuwenhuizenVK5NJ is a resident of Mt. Gambier in southeastern South Australia. He is a frequent user of the bands and can often be heard taking part in Australian contests. John uses both CW and phone modes, and when he is on he has an excellent signal.

John has won the President's Cup associated with the John Moyle Field Day on three or four occasions in recent years. He is a strong supporter of the local radio club.

Attached is a photo of John and his wife Tanina. John works in the court system in South Australia, principally as a Sheriff and no doubt in other capacities as well. He said that he had seen some amazing people pass through the courts – some deservedly so and others unfortunately so.

John is one of the success stories of VK contesting. Are you? Do you know someone similar? Could you persuade them to let their successes be known in this magazine? If so, Ian Godsil VK3JS would be very happy to hear from you (vk3js@bigpond.com).

Ed: As mentioned in the last edition of AR, Ian is stepping down from his AR Contesting role. Thanks Ian for your valuable input over the years. Ian's replacement is Phil Smeaton VK2BAA. Phil can be contacted via vk2baa@wia.com.au, so why not drop Phil a line and make some suggestions for column content - after all, it's your column!

ar

Silent key

Russell Meyers VK3PCN

Russell Meyers VK3PCN, who died in April this year, was licensed over twenty years ago. His main interest in later years was in 10 metres and the 10-10 net.

He amassed a good collection of QSL cards, mainly from South Africa.

He leaves a wife, Marj, a son, Danny, and two grandchildren

Spotlight on SWLing

Robin L. Harwood VK7RH
vk7rh@wia.org.au

DRM delivers some surprises

I recently was able to listen to DRM via an online receiver in Sweden. I was pleasantly surprised at both the quality and the number of available stations. There were few dropouts and the audio quality seems superior to that of the conventional AM mode. These signals were within Europe and likely a single hop and I believe that these dropouts increase with extra hops. This is why DRM does have its limitations on long haul propagation.

Radio Luxembourg is one station that primarily uses the 49-metre band with several different program feeds. For example, there is a German service on 6095 at 1100 and another one lower down but from a totally different sender in Britain.

The BBC World Service had excellent audio on 7320 and on 9410 and Radio Netherlands had a program feed on 7210. Deutsche Welle also had an excellent feed on 13640. I got a list of current stations using DRM from Google.

The only broadcaster in this region employing DRM is Radio New Zealand International and ironically it was on 6195 at the same time as Radio Luxembourg (1100Z), but there were no collisions as I was using a European remote receiver. I do also note that RNZI often alternates between DRM and the conventional AM mode on some channels.

DRM receivers are still not in sufficient commercial quantities. I expect that Europe will be the main target for the marketing of receivers, as that is where most of the DRM activities originate.

Radio HCJB in Ecuador has had a partnership program with several radio ministry groups in Russia and other CIS nations. Program feeds were uplinked by Russian satellite from Moscow to over 200 stations throughout the former Soviet Union. However, at the end of July, these organisations had to scramble as the satellite was taken over by the Russian government. Unfortunately, most studios had their dishes fixed to this satellite and it would take quite some time to find a replacement satellite. Also, broadband is not a viable option as this is mainly confined to St. Petersburg and Moscow, yet an Alaskan relay station was able to get a broadband connection. This station serves the far eastern tip of Siberia. Alaska was a Russian colony until 1867 and is of course the 49th State of the USA.

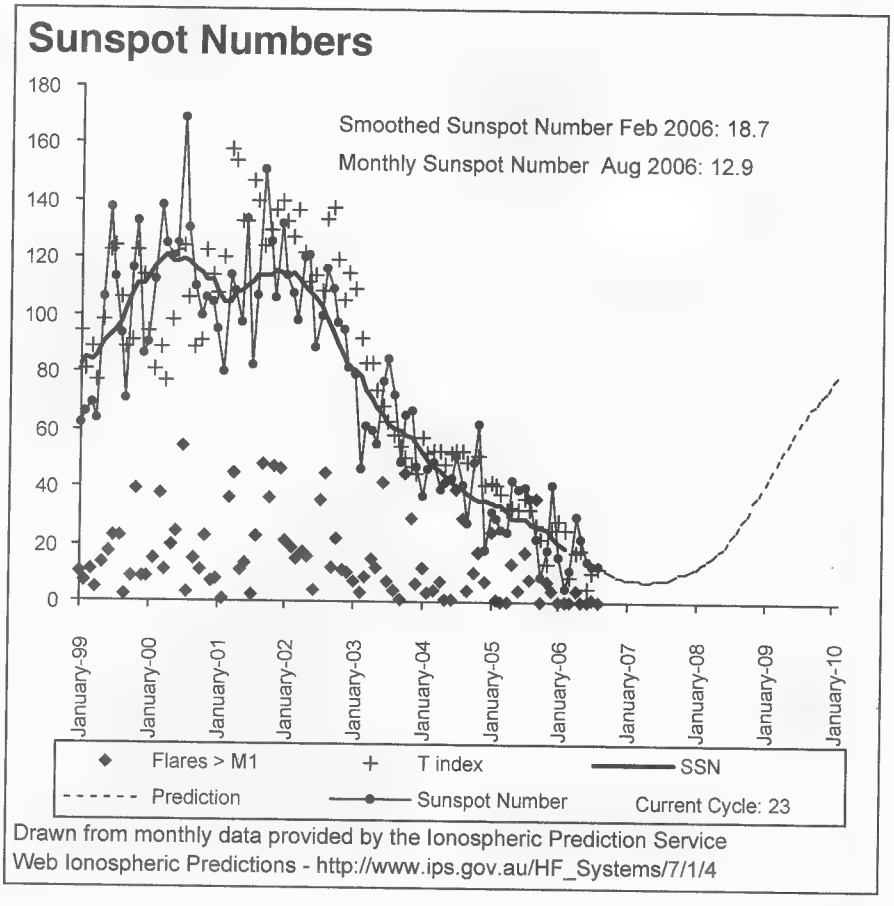
If satellites are prone to takeover by commercial and/or political forces, DRM is therefore a suitable economic alternative for audio feeds. RNZI are doing this now to feed Pacific Island stations. However, to work satisfactorily, both senders and receivers should be within a single hop.

Deutsche Welle in Bonn recently announced that VT Merlin would be responsible to transmit DW programming on shortwave. This comes as no surprise, as Deutsche Telekom (DT) sold their shortwave senders in Julich and Werchental to Christian Voice out of Maroochydore QLD! Therefore, in 2007 DW will be coming from VT Merlin transmitters throughout the World but not from Germany itself. Rather ironic. VT will probably take over management of the DW Relays in Kigali, Rwanda and Sri Lanka.

Do not forget that the major frequency changeover for shortwave stations occurs on October 29 from 0100. This coincides with the Northern Hemisphere reverting to Standard time. This year also should be the last time that Tasmania will be out of step with those mainland states with DST, as I believe they may be extending daylight saving as from Spring 2007.

Note that NZ has DST from October 8th.

Well that is all for this month. Good monitoring and 73 – Robin L. Harwood VK7RH vk7rh@wia.org.au



David Smith VK3HZ – vk3hz@wia.org.au

Weak Signal

David Smith - VK3HZ

Spring has finally arrived and the weather has shown a marked improvement in this neck of the woods. It's time to dust everything off, check that all is working OK, fix those minor (or major) things that you've been putting off due to the cold weather and generally prepare for the busy summer DX period.

Spring VHF-UHF Field Day

One of the main season-opening events is the Spring VHF-UHF Field Day, this year to be held on the weekend of November 11th and 12th. Full details were published in last month's magazine. The event is open to both portable and home stations. For those going portable, please advertise your plans on the VK-ZL logger (www.vklogger.com) and the VK-VHF email reflector (https://mail.une.edu.au/lists/cgi-bin/listinfo/vk-vhf) to encourage others to either go portable or be active from their home station to provide some contacts. Let's have some record levels of activity this year, and use those precious VHF/UHF and microwave frequency allocations that we are privileged to have access to.

Tropo opening in the Southeast

On August 28th, a slow-moving high-pressure cell was again responsible for a period of good propagation across the southeast corner of the country between VK3, 5 and 7.

That evening, Peter VK5ZLX was a big signal on 2 m into central Gippsland, easily working Rhett VK3VHF and Jim VK3II (S9). Brian VK5UBC also worked VK3II, although signals were nowhere near as strong. The following morning (August 29th) on 2 m, VK3HZ worked VK5ZLX (5/3), VK5UBC (5/1), Garry VK5ZK (5/2).

That evening, the Geelong 2 m and 70 cm beacons were being heard by both VK5UBC and VK5ZLX. Brian VK5UBC reports: "I worked Dion VK7YBI (950 km) on 146.5 FM and then a little later, I called on the Mt William 2 m repeater and Paul VK7BBW came back. We QSY'ed to 144.1 SSB and completed a contact (994 km) with Paul's signal peaking to 5/3 here. Following this contact Peter VK5ZLX worked Paul at 5/9. Paul then worked several VK3s, including VK3II". Later, Bill VK5ACY on Kangaroo Island worked Charlie VK3NX in Lara on 2 m and reported hearing the Geelong 2 m beacon at S4.

The following morning (August 30th), the opening appeared to have moved to particularly favour the Adelaide to Melbourne path. The Mt Lofty beacons on 2m and 70cm were both around S3 in Melbourne. Garry VK5ZK in Goolwa worked Kevin VK3WN and Ian VK3AXH in Ballarat (both 5/9+), David VK3HZ in Melbourne (5/9++) and Jim VK3II near Phillip Island (57). VK3HZ then worked VK5UBC on 2 m (5/9) and 70 cm (5/1) and Les VK5JL in Adelaide (5/2).

Beacons

As part of the spring clean in readiness for the summer period, it would be good to have an up-to-date list of active beacons around the country. One such list is provided on the VK-ZL Propagation Logger (www.vklogger.com and click on Beacons at the bottom). However, the list is only as good as the information it contains. If you click on the "Report" heading, the list will be sorted into date order with the oldest reception reports at the bottom. Some of these reports are over 18 months old (e.g. Dural 23 cm beacon). Could people have a listen for beacons in their local area and, if necessary, provide an updated reception report, even if there is no change in the beacon status. That way, we can be more certain that the status information is correct.

Don VK6HK reports that both the Esperance and Albany 2 m beacons are off-air at the moment. Hopefully they will be restored to operation shortly, as they provide a very valuable service to the eastern states, indicating the state of the path across the Bight. The 70 cm beacon at Albany (Mt Barker) is fully operational and, in fact, often provides a much stronger signal to the east than the co-located 2 m beacon.

EME

Further to last month's report, Charlie VK3NX has managed to break the world distance record for 5.7 GHz EME. On August 28th, he worked Philippe F2TU - a distance of 16421.8 km.

The wind was blowing a gale and bouncing Charlie's dish around causing much QSB, and at the critical moment when "73" was expected, Murphy appeared and a fuse blew in Charlie's rig. So, although Philippe was happy that he'd received everything, there was some small doubt in Charlie's mind. So, the following day, the wind had disappeared and Charlie again worked Philippe, sending a 539 report and receiving 529. Congratulations Charlie.

Charlie reports that he has had several 5.7 GHz EME QSO's since then, working RW1AW (St Petersburg, Russia), W5LUA (Texas) and OE9ERC (Austria).

VK-ZL on 2.4 GHz

During summer, the ZL to VK2/4 path opens up fairly regularly with contacts on 2 m, 70 cm and even 23 cm becoming relatively common. However, the path has not been worked on any higher bands. Recently there has been a push for stations well positioned at each end to become operational on 2.4 GHz in a common frequency band. One small problem has been that the VK and ZL band plans allocate different frequency segments for weak signal operation for the 2.4 GHz band – 2403 MHz for VK and 2424 MHz for ZL. However, many of the ZL stations are able to work in either segment.

Steve ZL1TPH is pushing for more stations to become active:

Over the last two years, there have been a number of unsuccessful attempts to VK from ZL on 2.4GHz, between Brian

ZL1AVZ, Nick ZL1IU and myself to Ross VK2DVZ and Adrian VK2FZ. At the time signals were weak on 1296.

There is interest here in ZL in working VK on 2.4 GHz, brought about no doubt by the first contacts on 432 to VK by ZL1TAB many years ago, and at a later date with Brian ZL1AVZ to VK on 1296. Twenty years separated these two firsts.

Steve goes on to say that there are at least seven ZL stations that have good coastal sites with elevation and are active on all bands, 144, 432, 1296 and 2.4 GHz – Brian ZL1AVZ, Ralph ZL1TBG, Ian ZL1AOX, Ted ZL2IP, Nick ZL1IU, Steve ZL1TPH and Ray ZL2TAL.

Let's hope that the VK/ZL path can be conquered on 2.4 GHz this season, and on to higher frequencies.

Please send any Weak Signal reports to David VK3HZ at vk3hz@wia.org.au.

Digital DX Modes

Rex Moncur – VK7MO

Sam, RN6BN, with his massive 1920-element array, is capable of working very small stations on 2 meters EME using JT65B and worked LZ1BB who was using only 40 watts and a 4 element Yagi. This result indicates that EME is now within reach of very small 2 meter stations with a few tens of watts and a small Yagi or even a medium gain omni-directional vertical. Sam can switch polarization to accommodate Faraday rotation and Spatial polarization changes and work stations with either vertical or horizontal polarization.

Rhett, VK3VHF, reports on his EME results with 100 watts and a single seven-element Yagi. "I only received Sam, RN6BN, at -20 dB last night, I've heard him in the past down to -12 dB. But pretty cool report from him at -17 dB." Rhett has worked, W5UN, RA3AQ, RU1AA, RN6BN and EA6VQ. He says "So certainly you can have some fun with EME using a small station like mine. Just takes time, as I've spent hours trying. There are plenty of 'Big Gun" stations which I haven't worked yet, so my little station still provides me with plenty of interest."

Alan, VK4EME, using 80 watts and a single 10 element Yagi on 144 MHz, completed his first EME contact with HB9Q.

Jim, VK3II, reports making JT65b EME contacts on 2 meters with a single 14 element Yagi fixed on the horizon with HB9Q, DL8GP and DF2ZC. He also copied S51ZO, OE6IWG, YU7AA and JS3CTQ. Jim says "I hope I can get a good 2 metre array together that can be tilted up so I can get a bit serious about EME work."

Ian, VK3AXH, has made significant progress with 2 meters EME, since completing a four bay 18 element array and reports as follows: "My 1st EME contact was with W5UN on 21 August 2004 using a single 12el Yagi and no elevation. A further 14 contacts were made using the single Yagi until use of the new array began on 3 April 2006. The array is by DJ9BV and optimized by Lionel VE7BQH with all 18 elements of each Yagi insulated from the boom. Only horizontal polarization is employed.

Total contacts to the end of August 2006 on 144 are as follows:-

	JT65B	CW	SSB
Grid Squares	84	2	1
Total Contacts	112	2	2
DXCC	24	2	1

Included in the above there are 2 CW and 2 SSB QSO's. Both SSB contacts were with RN6BN using his famous 1920 element array with Vertical and Horizontal Polarization. The initial SSB contact was tried after receiving signal levels of –6dB at both ends using JT65B on Saturday 26th August. Sam called me and I received him at 5x1 and he received me 4x4. We had 3x1 minute overs each. Sam's log show this as the longest distance of 13,918 km in his list of 162 SSB contacts. On Sunday 27th August at around 0640 UTC, Sam began calling CQ using JT65B alternating between Vertical and Horizontal Polarity. He was 8dB stronger on Vertical Pol to me. When I saw a level of –6dB I called him on SSB and was surprised to hear him come back with a 5x1 report. I gave him 4x1. Its great fun and I look forward to many more EME contacts in the future on 2 metres and eventually some of the higher bands."

Jim VK3II has been experimenting with QRP JT65 over a 518 km tropo-scatter path to Rex VK7MO. Signals are consistent at 5 watts and contacts can be completed more than 50% of the time at 2 watts. Comparison tests were made with SSB at 300 watts where copy is marginal indicating that there is around 20 dB performance improvement with JT65B. Des VK3CY, using JT65B, has been consistently working Rex VK7MO, at 780 km with 50 watts and around 50% of the time can get through on 25 watts.

On 6 September, Trevor VK4AFL and Rex VK7MO achieved their goal of a 5 watt QRP EME QSO on 1296 MHz. Trevor uses a 3.7 metre dish and Rex a 2.3 metre dish. This follows earlier success at 10 watts with the new version of WSJT, version 5.9.5. The further improvement from 10 watts down to 5 watts seems to be largely a result of good moon conditions with the degradation close to the best possible, but an additional factor could be a new "Super VE4MA feed" with a circular waveguide and Septum Polariser that Rex was using. This design of feed was recently announced by W1GHZ (www.w1ghz.org/antbook/conf/VE4MA_Chaparral_septum_feeds.pdf) as a result of theoretical analysis and should give around 0.5 dB improvement over the standard VE4MA feed. The use of a Septum polariser also makes it far simpler to tune. Following the success at 5 watts, tests were conducted at 3 watts and while a QSO was not completed, several syncs were achieved both ways with one correct decode in the average.

Operating Hint: Sometimes when operating JT65 on 2 meters a meteor ping with just the right frequency offset for a shorthand RO, RRR or 73 will cause the program to incorrectly decode the shorthand message. The problem is readily identified by watching the waterfall display, but it still overrides the correct message. There is an option under the Decode menu to set JT65 so that it does not decode shorthand messages when you are using line one and by using this option you will often be able to decode the correct message in the presence of meteors.

Please send any Digital DX Modes reports to Rex VK7MO at rmoncur@bigpond.net.au.

The Magic Band – 6 m DX

Brian Cleland – VK5UBC

August has been a very quiet month on 6m. There have been very few reports of band openings from anywhere in Australia. Only openings I'm aware of are on the 21st August there was a opening between southern VK4 & VK5 and on the 2nd September Norm VK3DUT worked Steve VK5ZBK.

I've received requests for information of where to listen to assist newcomers to 6m. Below is a list of Australian, New Zealand and New Caledonian 6m beacons that are presently operational.

Australia

50.046	VK8RAS	Alice Springs	CW
50.058	VK4RGG	Gold Coast	CW
50.066	VK6RPH	Perth	CW
50.087	VK4RTL	Townsville	CW
50.288	VK2RHV	Hunter Valley	CW
50.289	VK2RSY	Sydney	CW
50.293	VK3RMV	Wannon	CW
50.297	VK7RST	Hobart	FSK
50.304	VK6RSX	Dampier	CW
50.306	VK6RBU	Bunbury	CW
50.315	VK5RBV	Barossa Valley	CW
50.345	VK4ABP	Longreach	CW
52.438	VK3FGN	Mildura	CW
52.450	VK5VF	Adelaide	CW

New Zealand

50.040	ZL3SIX	Christchurch	CW
51.030	ZL2MBH	Napier	FSK
52.275	ZL2MHF	Upper Hutt	FSK
52.490	ZL2SIX	Blenheim	FSK

New Caledonia

50.080	FK8SIX	Noumea	FSK

There are other beacons either planned or not operating at present, and I will advise of any updates. If your equipment has the capabilities it is worth programming the above frequencies into memories and regularly scanning them. It is surprising how often you will find the band opens and you hear a beacon. It is also useful to listen for Channel 0 TV, in particular, Toowoomba sound on 51.672 and Wagga sound on 51.740. The International call frequency is 50.110 and the Australian calling frequency 50.200 with most SSB operation taking place between 50.110 and 50.200. For more information check the Australian Amateur Callbook.

Hopefully 6 m will start coming to life during September.

Please remember to send any 6 m information to Brian VK5UBC at bcleland@picknowl.com.au.

Silent key

Reginald Albert (Curly) Moger VK1MV

Curley Moger passed away after a short illness on Thursday 27 July 2006, four days short of his 83rd birthday. Curly will be remembered mainly for his love of amateur radio in general and telegraphy in particular. He gained an interest in telegraphy as a telegraph messenger in 1937, his first job after leaving school. In 1938, he then passed the examinations for promotion to Telegraphist.

At the outbreak of World War II, he decided that he needed a change and enlisted; however, the change did not last long as his telegraphic skills were soon put to work. At the cessation of hostilities, Curly returned to the Postal Telegraphy environment.

His love of telegraphy attracted him to the Morsecodians and later in life moved laterally into amateur radio, specialising in CW. On completion of his radio exams, he obtained the callsign VK1MV reflecting the callsign of his original Post Office posting at Moss Vale.

His wife Sue, his sons Gary, Craig and Graeme, and grandchildren will sadly miss Curly. He will also be missed by his old workmates, neighbours, and fellow amateurs. He was well represented at his Celebration of Life Ceremony at Gungahlin Crematorium and he was farewelled with the following Ode, telegraphed with a sounder key:

For them no more the Morse code sound,
Now their line has gone to ground,
And as the shades of evening fall,
We will remember them. GN
GN Curly

Submitted by John Clare VK1CJ

JOTA

21-22 OCTOBER
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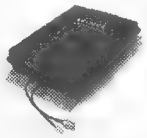

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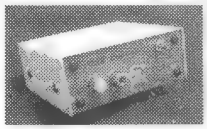

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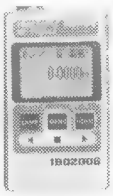

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News from...

VK2

Tim Mills VK2ZTM

Clubs

In mid August, the Blue Mountains ARC conducted their second "Winterfest" field day. Over 200 turned up on a nice fine day to the Glenbrook Scout hall, their meeting venue. There were many traders present, as well as boot sales. WICEN and the Home Brew Group mounted displays and everybody was well fed with the sausage sizzle from the food van. Many are waiting for next year. Other than the Central Coast in February, this is currently the only field day event close to Sydney.

A few days ago, the Oxley Region celebrated their 35th anniversary with a lunch and ragchew. The Mid South Coast ARC will hold their final quarterly gathering on the first Saturday in November, the 4th. Early next year, the Coffs Harbour and District ARC will have their annual field day at a new venue - on Sunday 21st January.

Interest has been expressed from the Snowy Mountain region for the possible forming of a local club.

ARNSW

This month it is planned to conduct a club conference. As these notes were prepared it was scheduled for Saturday 18 November, at the Ryde Eastwood Leagues Club to start at 10 am. This is where the recent AGM was held. Details will be on VK2WI News and clubs will have been notified by mail.

At mid August, the membership of ARNSW stood at 661 with many joining each month. There has had to be a change of venue for ARNSW exams. The temporary office location, where past exams were conducted since the move from Amateur Radio House, is no longer available at weekends.

Noting that Victoria is coming up to its 95th Anniversary, NSW is 20 months ahead of them.

It will be 50 years next May since the formal opening of the VK2WI transmission site.

Formal permission to conduct Sunday 'broadcasts' was granted in June 1939.

At recent AGM's, there have been various motions to alter the 'Articles' to adapt to changing circumstances. It has become evident that the current 'Articles' have become outdated. Rather that patch up the edges, it has been decided to seek out a 'model' constitution which is compliant with the current Acts applicable to the Company structure of ARNSW's holding company and adjust it to our requirements. This could result in the calling of an EGM before the end of this year.

In a note from our NTAC committee. They would like to remind groups that while repeater and beacon applications can go direct to the WIA Coordinator, it is beneficial for all to use local assistance in their preparation. We have had a case where the application had insufficient details, particularly with the location, for the interstate Coordinator to process. The VK2 Coordinator is Brian VK2WBK, whom you can contact direct or via the ARNSW office.

Exams

ARNSW currently conducts monthly exams. Several clubs are also known to conduct courses and exams: Hornsby and District ARC, Waverley ARS, Central Coast ARC, Westlakes ARC, Oxley Region ARC, Karuah Valley RG and Hunter Radio Group. Contact points for these groups can be obtained from the ARNSW web site. This is a call to other clubs and groups to contact ARNSW by the addresses above or telephone 02 9689 2417. The office receives inquiries and it would be nice to have on hand details about your region. Please advise.

Who said Morse was dead?

Now the interest seems to be even greater. VK2WI recently received a request from VK1 for higher speeds on the 3699 kHz transmission. At present, the highest speed is 15 wpm and their request was for 20 and 25 wpm to be added. This is possible but is it what the users want? At present it steps up a speed every five minutes first from 5, then 8, 10, 12 and 15 wpm when it returns to 5 wpm. Should the extra speed just be added on or should a different format be adopted? Opinions can be sent to the Dural Committee via the AR-NSW email address of vk2wi@ozemail.com.au or mail to PO Box 9432 Harris Park 2150. To find out more about the 3699 operation, go to the web site www.arnsw.org.au

There, you can also check your copy against the text used.

While on the Morse topic, the Central Coast ARC also operate a training transmission. They have been operating on 439.950 MHz. Repeater Officer Don VK2ZCZ reported in their newsletter of some changes. It is to be moved to a repeater pair on 439.725 MHz, where it will transmit 5 & 10 wpm without any CTCSS (subtone). Its receiver on 434.725 MHz will require a 123.0 Hz CTCSS tone to be activated and when activated, the Morse transmission will cease and a 123.0 Hz CTCSS tone will be added to the transmitted audio so that receivers with CTCSS decode function will not hear the Morse (without the 123 Hz tone) but will hear voice transmissions sent to the repeater receiver with a 123.0 Hz tone.

This means that the repeater can be monitored, using full (transmit and receive) CTCSS and the Morse transmissions will not be heard, unless the user's receiver CTCSS decoder is disabled allowing reception of the Morse Practice code.

Approximately 5 minutes after the last received signal with 123.0 Hz tone, the repeater transmitter will revert back to a Morse Beacon without CTCSS tone.

Don concluded his report by saying - when this new Repeater is installed at the site, the existing 439.950 MHz Morse Beacon Transmitter will be removed and [the channel] used for the "Local Chat without CTCSS or links" repeater.

VK2WI

VK2WI is the site where ARNSW now conducts the bi monthly Trash and Treasure events. Mark VK2XOF, who coordinates the event, is seeking equipment or stock. If you are having a clean out, have industrial electronic stock for disposal, or a Deceased Estate to process, contact ARNSW. Once the proposed storage facilities have been

constructed, it will be an expanded area to half of the existing shed. The next and final event for this year will be Sunday 26 November.

The weekly VK2WI news has needed to utilize all its transmission facilities as we scrape across the bottom of the cycle. 80 metres has been doing sterling service both morning and evening, helped we believe by the reflector below the dipole. 40 metres has been on a long skip, not helped by a 'broadcaster' across the Tasman who started operating on an adjacent frequency when one of their antennas on another band developed faults.

Our manual relay stations have done a major service for us by providing relays via local repeaters. In the far north, there is the team with Summerland who are usually at the right distance to get an HF signal. Closer in at Tamworth John VK2YGV struggles for a signal for their VK2RTM on 6750. Recently he had also provided a signal to VK2RCC 6800 which serves Dubbo and the Central West. We are also grateful to the unknown groups providing signals to their regions. Please let us know for the record.

73 - Tim VK2ZTM.

VK3

Amateur Radio Victoria News

Website: www.amateurradio.com.au
Email: arv@amateurradio.com.au
Jim Linton VK3PC

Super September Update

The decision to double Amateur Radio Victoria's education effort in September proved to be a success, with 20 enrolled for the two weekend training and assessment sessions.

Thank you to those members who recommended that people enrol. Word of mouth is a powerful marketing tool.

The upcoming Foundation Licence sessions at Box Hill North are 14-15 October, 11-12 November, and 9-10 December.

So, is there a limit on the number of new people who can be attracted into amateur radio through the Foundation Licence?

It does seem it is time to test the market. There is no shortage of WIA accredited assessors with experience under their belts and more soon to be accredited, following a recent assessor training session.

Before the licence restructure just 12 months ago, there was not a lot that could be said about the hobby that would have encouraged people to seriously consider joining it in large numbers.

With those qualifying for the Foundation Licence nationally at around 800 and 300 in Victoria, we have something proven interesting and attractive. Let us now go and sell it!

A proposed public relations exercise to be run by Amateur Radio in the Greater Melbourne area has enlisted about 15 radio amateurs who will be 'Ambassadors' for the hobby.

In making the call for volunteers, it was not surprising that Foundation Licensees were among the first to put their hands up. The exercise demands a large preparatory effort and we will report on its outcome.

Changes to Planning Laws

The Victorian Government has decided to remove a number of relatively minor matters from the requirement to have a planning permit.

Amateur Radio Victoria is monitoring this development to see if it is going to change the way in which municipalities approach the issue of amateur radio masts.

In the past year, four members received assistance in relation to radio mast matters. Most of them were straightforward, while one took considerable effort to achieve an acceptable result.

While generally a planning permit has not been required in Victoria for a standard radio mast up to 14 metres in height, they do require a building permit.

Repeaters Report

The Mt St Leonard VK3RMU site northeast of Melbourne now has a 2-metre repeater on 147.375 MHz in addition to its long-standing 70 cm repeater.

The use of the new Amateur Radio Victoria repeater requires CTCSS of 91.5 Hz.

In other repeater upgrading, the Bendigo City repeater VK3RBO at Specimen Hill is on-air using a frequency of 438.025 MHz.

The contributions made by Amateur Radio Victoria to the repeater include providing the power supply, diplexers and standby battery. ARV has supplied a new antenna that is awaiting installation by an authorised rigger.

The Midland Amateur Radio Club paid for the repeater plus its controller. Plans include making VK3RBO an IRLP node.

ILLW 2006

In the true spirit of the International Lighthouse and Lightship Weekend, those who joined the Amateur Radio Victoria VK3WI activation this year had a great time.

Terry Murphy VK3UP coordinated the event at the Williamstown Lighthouse and Timeball Tower (AUS-170). A number of radio amateurs joined Terry. They included Tim Hunt VK3IM, Michele Grant VK3FEAT, John Sargeant VK3FJAS and Brendan Trott VK3OY.

The VK3WI logbook scored many other lighthouses in VK and ZL, and put on a very good show for the general public who stopped to find out what was happening.

News from...

VK5

Christine Taylor VK5CTY

Adelaide Hills Amateur Radio Society

Keith VK5OQ addressed the August meeting, held at the new venue. He spoke about the over-the-horizon radio system with which he had been involved. This is one of the developments in which Australia leads the way.

Keith explained how the beams are 'bent' over the horizon and showed us some of the aerials used and the results obtained. The difference between a ship and a plane even if the sizes are similar is very obvious to see when you have been shown the difference.

Even though the original system was initially developed to warn of invading enemy missiles etc rather than for peacetime use, the system is extremely useful today for protecting Australia's vast continental shelf from intruding fishing boats.

Keith had a number of amusing stories to tell, of course, of the things that can happen in the bush, so overall the evening was very interesting.

AHARS has had another project night. This time multi-band dipoles were constructed (we were not allowed to call them G5RV aerials because strictly speaking they are multi-band wire dipoles).

There were ten people there that evening and five of them went away happily draped in wire antennas and ladder lines to feed them, as the photo shows.

The new venue was proclaimed a success, although there was a problem with public transport, as the meeting went rather late, which will no doubt be sorted out eventually.

If you are visiting Adelaide on the 3rd Thursday of the month, please contact Jim VK5NB or John VK5EMI for information about the meeting and the new venue. All are welcome, as were the two from VK3 and one from G-land at the above meeting.

The successful aerial makers (L to R): Sasi VK5SN, Jenny VK5FJAY, Graham VK5GW, and Greg VK5XGH

The Fleurieu Peninsular Group

There were 24 at the luncheon venue and most of them repaired to the QTH of Garry VK5ZK for coffee and chatter.

Tony VK5ZAI and his XYL Jill were staying overnight with Garry and Cecily, so their round-Australia van was inspected before most of the OMs descended on Garry's shack to see his latest projects.

A presentation was made to Garry and Cecily to show our appreciation of their hospitality for these luncheons. We expect to be shown the 'fabulous' growth of the giant palm each time we visit in future. We may also be shown all the marvellous things Garry can do with a PDA.

As usual, these get-togethers are very pleasant, even though the amount of amateur radio talk varies from time to time.

Graham VK5KGP, Cecily, and Garry VK5ZK (The palm is out of sight on the floor in front of them!)

VK7

Justin Giles-Clark, VK7TW
Email: vk7tw@wia.org.au Regional Web Site: reast.asn.au

Congratulations to the Northern Tasmania Amateur Radio Club for receiving $1,900 as one of five successful WIA Club Grants for 2006. The grant is to go toward the purchase of a commercial diplexer to allow mounting of a single Tx/Rx antenna for VK7RAA on Mt Barrow. 160 m AM is alive and well in VK7 again thanks to Dave VK7DM, who is now also relaying the WIA National News and VK7 Regional News broadcasts each Sunday morning from 0900 on the MF band (1840 kHz, who said steam powered radio was dead, HIHI). A search of the ACMA Radcomm database shows that there are now 66 Foundation licensees in VK7. With approximately 560 licensed amateurs in VK7, less the beacons and repeaters, Foundation licensees account for 12 percent of amateurs in Tasmania. Congratulations to all involved in training and assessing, and keep up the great work!

North West Tasmanian Amateur Radio Interest Group

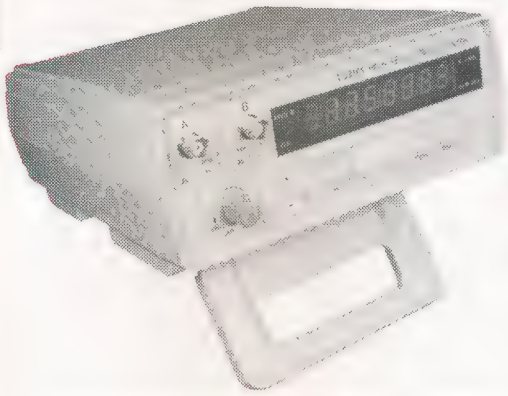
On 18 August 2006, students from Devonport and Reece High Schools made contact with Astronaut Jeff Williams aboard the International Space Station at around 1040 UTC. Students were able to ask six questions before some technical difficulties cut the contact short. However, the contact was proclaimed a success. Thanks to NASA and Australian ARISS Co-ordinator Tony Hutchison VK5ZAI.

WIA Assessor Peter Rumble VK2IY/VK4KX now lives in South Riana and is available for training and conducting assessments for all classes of amateur licences. Anyone interested in these training and assessment sessions in the N/West Area should contact Tony VK7AX on 6425 2923 or Ron VK7RN on 6424 6366 or email: nwtarig@spamex.com.

Northern Tasmania Amateur Radio Club

NTARC's August meeting was a very interesting talk on antennas given by Stuart and Phil and this has stirred up much enthusiasm in the club. Bill VK7MX has been coordinating the bulk purchase of 2 m and 70 cm Chinese handhelds and is doing a great deal so,

Precision Frequency Counter



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if you are interested then contact Bill on 6398 6100, or mobile 0409 608 183 or e-mail: wrmaxwell@bigpond.com or on VK7RAA.

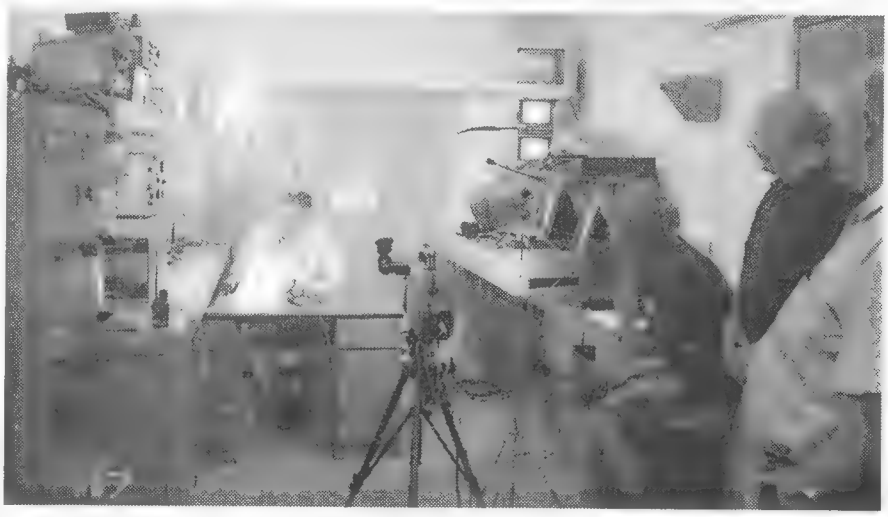
Radio and Electronics Association of Southern Tasmania

WICEN was involved in providing communications for the Southern Tasmanian Endurance Riders Event on the weekend of 12/13 August. VK7s ARN, BW, FDNA, HAW, JGD, MBD (and Essie), NXX and ZZ were all involved in the successful deployment. Congratulations to Steve VK7FSRC, Peter VK7FTAZ, and Greg VK7FGGT, who qualified for a foundation licence and Harvey VK7HLE and John VK7HJS for a standard licence recently. The International Lighthouse Lightship Weekend saw VK7s ARN, FAME, FRAE, MBD, TPE and ZZ with support crew Maureen and Essie activate VK7OTC at Cape Bruny lighthouse AUS-024. The group contacted 28 Australian lighthouses, three in New Zealand and many other contacts. Special thanks to Andy VK7WS and his XYL Beth and to Parks and Wildlife Tasmania.

The Wednesday ATV Experimenters' Nights are very popular with many people regularly involved in putting to air video and audio material. Recently, several live interviews went to air, with Mike 7MJ, Graham 7ZGK and Ken 7DY receiving great audio and video reports.

REAST's September visit was a guided tour of the National Foods milk processing facility at Lenah Valley by Dale VK7DG, the facility's engineer. The amount of process control technology throughout the facility was overwhelming. Thanks to Dale for showing us through.

ILLW 2006 participants at AUS–024 Cape Bruny. L to R – Roger 7ARN, Bruce 7MBD, Essie, John 7ZZ. Photo courtesy of Chris 7FCDW.



VK7WI – VK7 Regional News Broadcast on ATV
L to R - Barry 7RS, Tom 7FTAA, Ken 7DY and Rod 7TRF.

VK4

The Redcliffe & Districts Radio Club are conducting the annual Red Sun Rally on Sunday 19th November, starting from their clubrooms at MacFarlane Park in Klingner Road, Kippa Ring.

The day will start at 10 am with the Red Sun car rally, followed by a BBQ lunch around midday. This will be followed by the official unveiling of their newly renovated clubrooms at 1 pm with a local foxhunt also organised for 1:30 pm.

All are welcome to attend what will be an enjoyable day. The club will provide sausages and bread for the BBQ and people are asked to supply their own salad.

The day will wrap up at 3pm with presentations and coffee.

For more information check the clubs website http://vk4rc.we.net.au or contact the club secretary Peter Richardson VK4TAA.

Bill Magnussen VK3JT

Preparing your station for the High Earth Orbiters

Part 3

Most of the material I intended to cover has been dealt with in the first two parts of this 3-part series. This will be a short discussion of the equipment options. I will not be recommending any particular brand or model, you need to make that judgement yourself. I will just be offering some suggestions regarding what to look for in the way of specifications and features.

A word on transceivers

Most modern radios feature transceiver format. Most satellite modes operate with the uplink and downlinks on different bands, sometimes even in differing modes. This has led to the evolution of the multi-band, multi-mode, duplex, satellite transceiver that can theoretically do anything. Read the fine print. Make sure your beaut new transceiver will actually do what the brochures claim. There have been notable lemons in this regard in the past and one or two success stories that have managed to stand the test of time.

Transceiver requirements

Here we need to take into consideration the caution at the start of last month's column. You will remember it dealt with the increasing noise floor world wide resulting from the proliferation of all kinds of "wireless" computer and domestic telecommunications technology. Projections over the life of the next generation of HEOs has led the Eagle design team to believe that our most favoured bands will succumb to this march of technology leaving our only option to move further into the microwave region.

This will necessitate a complete design rethink, both for the satellite and for earth stations. That represents a complete spanner-in-the-works and it is difficult to move on with such a Sword of Damocles hanging over the future of HEOs.

However, move on we must. I can see a faint hope, a light at the end of the tunnel perhaps, it is this; we are already seeing wireless connectivity devices moving from the 2.4 GHz band into the 5.8 GHz region. Marketing gurus are exploiting Joe Public's collective view that more is better and soon we may find that 2.4 GHz wireless gizmos may be so far out of fashion that no-one who's anyone would be seen to have one in their thoroughly modern home. If that trend continues – and of course, it's only an 'if', we may again have the 2.4 GHz band and perhaps even the 5 GHz area relatively to ourselves.

Notwithstanding this, dish/feed design is already far enough advanced to allow operation in quite noisy situations. I feel sure we can do better if required. Maybe we just leave time for the march of gizmo technology to leapfrog over us. We already know how fickle Joe Public is concerning his toys. In the meantime, we can take solace from the German P3E spacecraft, which is far enough advanced in design and preparation to virtually guarantee us HEO operations on the "U", "V", "S", "L" and "C" bands well into the next decade.

So (deep breath) after all that, let us again consider your emerging HEO station. It will need to cover the 2 m band, the 70 cm band and, if you have the resources left, the 23 cm band. You will need to have the capability of unhooking the in-band transceive function and have the transceiver receive on any one of these bands and transmit on any other – at the same time.

Even this may not be enough. Sometimes the radio may be pressed into service as an IF strip for a downconverter on some other band, typically 13 cm. It cannot be emphasised too much, that special precautions are needed to prevent blowing up your down-converter. The accidental application of RF for even a moment can destroy such precious gear. Masthead pre-amps require the same kind of consideration.

A much safer method, and one used by many experienced HEO operators in the past is to consider a separate receiver for that function. If the set does not transmit anything, your up-line gear should be

The AMSAT group in Australia

The National Co-ordinator of AMSAT-VK is Graham Ratcliff VK5AGR. Contact Graham if you wish to be placed on a mailing list for breaking news and net reminders. As a forum for members AMSAT-VK operates two monthly nets.

AMSAT-Australia Echolink Net

The "Echolink" net meets on the second Sunday of each month. Anyone with an interest in Amateur Radio Satellites is welcome to join the net. Graham VK5AGR acts as net controller. The net starts at 0500UTC during summer time periods and 0600UTC during winter standard time periods. Connect to the AMSAT conference server on Echolink a few minutes before these times.

AMSAT-Australia HF net

The HF net meets informally on the second Sunday of each month. In winter (end of March until the end of October) the net meets on 3.685 MHz at 1000 UTC . In summer (end of October until end of March) the net meets on 7.068 MHz at 0900 UTC. Start listening 15 minutes before these times.

All communication regarding AMSAT-Australia matters can be addressed to:

AMSAT-VK,
9 Homer Rd,
Clarence Park, SA. 5034

Graham's e-mail address is:
vk5agr@amsat.org

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safe. Many regular users of the HEOs in the past have added one or more single band transceivers or receivers to the shack gear to cater for all circumstances. Despite what some advertising material implies, we are still a long way from the universal satellite radio. Whatever radios you decide upon, they should have SSB, CW and FM modes as standard. The developing noise situation world wide on our most favoured bands has potential to alter radically the shape of our satellite stations. But – lacking a crystal ball and considering that the next satellite, P3E should be around for quite a while, it would be reasonable to build your HEO station around a 2 m and a 70 cm transceiver or one of the multi-band, multi-mode jobs now on the market. However, you must read the fine print, particularly concerning duplex operation. You can add suitable down-converters as needed.

Data Modems

Data rates up to at least 9600 baud operations and possibly 38k4 should be part of normal activities on P3E. You may never be concerned with digital operations but it adds to the fun. The idea of a return to the heady days of the UoSats with the added challenge of a HEO orbit is enough to send a chill up one's spine. High-speed modems are expensive if you are so moved, but they are not essential to get the show going. They can be added later at your whim.

Antennas

As discussed in earlier parts, you should really consider a tracking system with at least 2 metres and 70 cm on board and perhaps room for a small dish. It would be quite legitimate to bypass this requirement and concentrate on building your station around the higher frequency bands and a single dish with multiple patch feeds. Designs are freely available whether you decide to build your own Yagis, dish or whatever. Aside from surplus dishes, you can easily make most of the rest in the shack workshop. Whether bands U, V, L, S or C, try to give your two most favoured bands your best shot. High gain, switched CP, pre-amps, the lot. This HEO thing is not something you can approach in a sneaky fashion. You can add to your station as time goes on – but – you need to start out with a capable station, whatever your preferred mode or bands of operation.

Rotators

There is not a wide range here. You will just need to make a commitment, bite the bullet and do it! I was fortunate in finding an AZ/EL rotator on sale at a hamfest about 15 years ago. It is still performing perfectly. Unfortunately, the thought of putting together a working AZ/EL auto-track system is what puts many people off the HEOs – or serious satellite operation of any kind if it comes to that. Remember though that a ground mounted, manually operated dish will give good results when the HEOs are way out there near apogee. They move very slowly across the sky giving you plenty of time for long QSOs with DX stations. My 2.4 GHz dish is ground mounted and manually steered. Most of my 2.4 GHz contacts came with the radio and laptop out on the back veranda.

Computer and Software

A good computer is an essential part of a HEO station. You will need it for orbital predictions, for downloading Keplerian data from the internet, for running the software to control your antenna pointing and to handle any data decoding that might take your fancy. Strictly speaking, you do not need the latest and flashest computer, but pricing is so competitive these days, you will most likely already have a machine far more capable than required for amateur radio satellite purposes. My old clunker has barely enough resources to support Windows98se, yet it does everything required.

Feedlines.

Quite simply, buy the very best you can afford. Get a good soldering outfit, learn how to solder properly and fit brand new connectors everywhere.

I will leave it there. I hope the last three columns have gone some way to help those who may be considering the jump from LEO to HEO. Good luck with your efforts. Consider all the above before you commit yourself. It is not an easy road but it leads to heaps of fun and satisfaction. Remember the AMSAT-NA web site. Go to Eaglepedia to read and consider the latest design thoughts from the Eagle design team. Details of the P3E craft are available from the AMSAT-DL web site.

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Beyond our shores

David A. Pilley VK2AYD

Telecommunications policy:

RBR could wipe out HF comms

A proposed U.S system to protect satellites from solar storms or high-altitude nuclear detonations could cause side effects that lead to radio communication blackouts on the High Frequency bands. The following is a report from Jim Meachen ZL2BHF.

According to new research in New Zealand and elsewhere, the "Radiation Belt Remediation" or RBR system as proposed by the United States military, could significantly alter the upper atmosphere. It could also seriously disrupt high frequency radio transmissions and degrade GPS navigation around the world.

"Science Daily" broke the story in its on-line news service. It says that the RBR system is designed to protect hundreds of low earth-orbiting satellites from having their onboard electronics ruined by charged particles when the Van Allen Radiation Belts are super-energized by high-altitude nuclear explosions or naturally occurring but powerful solar storms.

The United States Air Force and the Defense Advanced Research Projects Agency are pursuing the technology. It involves the generation of very low frequency radio waves that are expected to flush particles away from the radiation belts and dump them into the upper atmosphere over one day or possibly several days.

At least in theory, it sounds as if it might protect the satellites, but at a significant cost to High Frequency spectrum users including radio amateurs. A scientific team from New Zealand, the United Kingdom and Finland has been studying the effect of the proposed RBR satellite protection system. It calculates that Earth's upper atmosphere could be dramatically affected by such a system.

The team says that sustained and unusually intense High Frequency blackouts would be common around most of the world. For hams, international broadcasters and other users of long range High Frequency communications it would be as if the United States government had thrown a switch and turned off those bands.

Dr. Mark Clilverd, who is with the British Antarctic Survey, says that aircraft and ships that rely on High Frequency communications could also lose radio contact. He also says that some remote communities that depend on HF could be isolated for as long as six to seven days each time the system is used.

In addition, just as worrisome is the effect of RBR on the Global Positioning System or GPS. The researchers say that signals between ground users and satellites would be disrupted as they pass through a highly disturbed RBR controlled ionosphere.

Those investigating the proposed system suggest that if the super charge of the radiation belts resulted from a rogue nation detonating a nuclear device in the upper atmosphere, using Radiation Belt Remediation technology would probably be acceptable to the international community. However, using the system to mitigate the lesser risk to satellites from charged particles caused by naturally occurring solar storms should be considered more closely. The researchers say that the impact of the disruption to global communications needs to be weighed carefully against the potential gains.

This study was published in the August edition of the international journal *Annales Geophysicae*. Those conducting the research suggest that national leaders and their telecommunications policy-makers must carefully consider the rather severe implications of Radiation Belt Remediation before it is ever used. (*Space Daily*, others)

(ARNewsline 180806)

UK

5 MHz extension

UK telecommunications regulator Ofcom and the Ministry of Defence have agreed to extend the 5 MHz experiment that started at the end of July 2002 until June 2010. This extension follows discussions between Ofcom and the RSGB. 5 MHz NoV holders will also be permitted to use an additional two frequencies.

The RSGB is also lobbying Ofcom for use of 501 and 504 kHz. This is in dedication to the memory of the maritime services that no longer use the 500 kHz frequency.

(RSGB)

New Zealand

5 MHz operation

Whilst on the subject of the UK and their 5 MHz operation, NZART advise that effective 24th August 2006 two frequencies, namely 5.3214 and 5.3964 MHz are available on a temporary basis to licensed amateurs in New Zealand. All modes are permitted with a bandwidth maximum of 2.8 kHz and subject to non-interference to other services. NZART have developed rules approved by the R.S.M. These frequencies cannot be used for contests or radio award activity.

(NZART)

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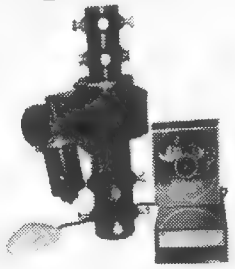
OzSpid Rotators



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DX - News & Views

VK4OQ,
P.O. Box 7665, Toowoomba Mail Centre, QLD 4352.
Email –john.bazley@bigpond.com

Well it certainly was good to see the Sunspot numbers rising and a corresponding improvement in band conditions, though unfortunately only for a few days, but sufficient to make us realise what a small improvement can do to propagation.

With the recent DXpeditions having taken place (at the time of writing Mayotte and Lestho), the participants have obviously managed to cope with the new rules and legislation introduced by the Airlines - but undoubtedly they will have had some difficulties – their reports should make interesting reading. Certainly, in recent months there has been a move towards a reducing the amount of equipment taken, particularly linears, with possibly more attention made to antenna systems.

The following addition to the DXCC Accreditation Criteria was issued on the 11th August by Wayne Mills N7NG:

For a number of years, it has been accepted practice to post DXpedition QSO information on a DXpedition Web site. Although this information is generally limited to ***callsign, band and mode****, it has been useful in reducing the number of duplicate contacts in the DXpedition log. Publishing complete QSO information, or information from which full QSO information can be derived, on the other hand, threatens the integrity of the QSLing process, and is unacceptable. There must be some information that the station claiming the QSO provides based solely on actually being there when the QSO was made. If complete QSO information can be derived from information based on the DXpedition log, the QSL manager's job can be much more difficult if busted calls are involved. To help minimize potential difficulties, therefore, the following restriction has been approved by the Programs and Services Committee, and added to the DXCC Accreditation Criteria, Section III.*

The presentation in any public forum of logs or other representations of station operation showing details of station activity or other information from which all essential QSO elements (time, date, band, mode and callsign) for individual contacts can be derived creates a question as to the integrity of the claimed QSOs with that station during the period encompassed by the log. Presentation of such information in any public forum by the station operator, operators or associated parties is not allowed and ***may be considered*** *sufficient reason to deny ARRL award credit for contacts with any station for which such presentations have been made. Persistent violation of this provision* ***may result*** *in disqualification from the DXCC program.* (My highlighting)

This is worth reading carefully, and in future, for those DXers using a DX Cluster, it is worth considering, when putting 'up' a spot, whether or not to include such information as:

"Tnx - at last after 3 hours!" "tnx for the new one", "Tnx Fred – good to be in the log!" etc. All these indicate the actual time of a QSO – the only data missing is the report.

The following operation has been approved for DXCC credit:

KH8SI - Swains Island. Also, K1ER/KH8, KS6FO/KH8, WH7S/KH8, K8YSE/KH8, AH7C/KH8 and KH6BK/KH8 from July 28, 2006 through August 2, 2006. The above team have released the following statistics of their recent operation:

Band QSOs: 160 metres 227 QSOs. 80metres 266 QSO's, 40 metres 1595 QSOs, 30 metres 2426 QSOs, 20 metres 7096 QSOs, 17 metres 3657 QSOs, 15 metres 800 QSOs, 12 metres 323 QSOs.

Continent QSOs: Africa 53, Asia 5132, Europe 1655, N. America 8810, Oceania 603, S. America 137.

FH - Sam Serge, F6AML will be active as TX6A from Mayotte (AF-027) from 5th until 17th October. He plans to operate CW and SSB on 80-10 metres (suggested frequencies: 3514, 7014, 10115, 14014, 18071, 21014, 24892 and 28014 kHz; 3785, 7057, 14266, 18140, 21266, 24966 and 28444 kHz) and to pay special attention to North America and Japan. QSL via home call, direct or bureau.

VQ9LA QSLs: Larry Arneson VQ9LA, says that after 1st September 2006 he will no longer accept IRCs. Diego Garcia has no place to redeem them and his contact stateside no longer will buy his coupons. All QSL cards with IRCs for VQ9LA, VQ9X and VQ9IO received after 1st September will be placed in the outgoing QSL bureau.

3X - Valery RA3AJ reports that Serge UA6JR (3XM6JR) and Alex RW3AZ (3XD2Z) will be active again from Boke, Guinea starting on 29 August "for the few next years". They certainly have started well with a lot of activity on RTTY and PSK and extended periods of activity. They intend to operate on 160 - 6 metres CW, SSB and RTTY, plus PSK and SSTV (3XM6JR). Serge also plans to operate from IOTA groups AF-096 and AF-051 during his stay, while a special callsign (3XY3AZ) is supposed to be used in contest activities. QSL via UA6JR, direct or bureau.

YT1CS - Miki is planning a trip to Africa in October, to activate some IOTAs and countries. He plans stops in Tanzania, Kenya, Burundi, Ethiopia, Comoros, and Mayotte. From Kenya and Tanzania, he will activate AF-040, AF-067, AF-032 and AF-063. He is looking for sponsors. Contact him at yt1cs@ptt.yu.

HK0GU, San Andres. Gerd DL7VOG will be back on the air as HK0GU, San Andres, in November. To begin with, between November 9th and November 14th, he will be on from Isla Pirata, SA-040, signing HK0GU/1. This will count as the Colombian mainland. Then, from November 15th to December 1st, he will be on Providencia Island, NA-049, which does count for "HK0," San Andres and Providencia. He will be QRV on all bands including 160M, using CW, RTTY, and some SSB, using an Icom IC-706MKIIG, 100 watts, to a Butternut HF9V vertical and a "fishing rod" vertical for 160 m. Gerd says he does not think this will be his last visit to HK0 either, and in the future he may occasionally be able to be there at a good time of year for a 6 m opening. For more details go to www.qslnet.de/hk0gu QSL via DL7VOG, direct to Gerd Uhlig, P.O. Box700 332, D-10323, Berlin, Germany, or through the bureau. You may also request a bureau QSL reply by asking for one, with all the QSO details, to hk0gu@dl7vog.de.

Special thanks to the authors of The Daily DX (W3UR) and 425 Dx News (I1JQJ) for information appearing in this month's *DX News & Views.*

Hamads *classifieds* FREE

WANTED NSW

Geloso band switched Pi-Coupler. Would if necessary purchase equipment which includes this piece of gear. Ken North VK2ZAN 02 6331 3335.

FOR SALE VIC

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FREE to pickup: 1 Marconi B28 X-Royal Navy Receiver. Complete but needs work to restore. Email mewdav@netcon.net.au QTHR VK3AXT.

CODAN Model 8525 radio. 99 channels 100 watts output. Good working reliable radio. Eprom programmed with 5 VKS 737 channels plus 80/40/30/20 metre frequencies. $485. VK3IQ QTHR Ph 03 5672 2563

WANTED VIC

I am trying to restore/complete my AN/TRC24 Radio system and I am looking for the following parts/units:- Transmitter, T-302/TRC Power Supply, PP-685/TRC Receiver, R-417/TRC A Band Plug-in AM-1180/GRC Amplifier/converter, AM-2537/TRA-25 and any other bits and pieces for this radio. Thanks for reading this. Regards, John Eggington, VK3EGG johne@telpacific.com.au Mobile 0409 234 672

FOR SALE QLD

Icom IC-746 HF/VHF transceiver Pro plus Power Supply PS-125 (25 Amps) with books $2000. FM Transceiver IC-2000 with DTMF mike, with 2 mobile whips, Book $600. Power Supply (25Amp) home brew $200. Terlin Antenna good condition $300. What offers for the following: Icom IC-720A transceiver with fault, book. Beam 3 element Cushcraft. Rotor and Controller. Beam 10 element 2 metre Yagi. Contact Lyne; 07 5442 6027

WANTED QLD

TS-660 All Mode Quad Bander transceiver or YAESU FT-620, must be in working order. Price to VK4KAL QTHR or email donvk4kal@bigpond.com

FOR SALE TAS

Handheld transceiver 1.2 GHz IC-12A/AT/E 1 watt FM $300. Mobile transceiver 1.2 GHz FT-2311R 10 watt FM $250. 4 relays 12V UHF coax $10 ea. QTHR VK7ZAL Robert.

MISCELLANEOUS

From my grandfather's estate, there is a quantity of magazines from the 1950/60s and a number of manuals, and a 78 rpm standard Marconi signals disk and various other items. We wish to know if these would be of interest to WIA members. Madeleine, email madals@bigpond.net,au.

THE WIA QSL COLLECTION REQUIRES QSLS

All types welcome, especially rare DX pictorial cards, special issue. Please contact the Hon Curator, Ken Matchett VK3TL, 4 Sunrise Hill Road, Montrose Vic 3765, tel. (03) 9728 5350

About hamads....

- Submit by **email (preferred)** or on the **form on the reverse of your current Amateur Radio address flysheet**. Please print carefully and clearly, use upper AND lower case.
- Separate forms for For Sale and Wanted items. Please include name, address STD telephone number and WIA membership number if you do not use the flysheet.
- Deceased estates Hamads will be published in full, even if the ad is not fully radio equipment.
- WIA policy recommends that the serial number of all equipment for sale should be included.
- QTHR means the address is correct in the current WIA Call Book.
- Ordinary Hamads from those who are deemed to be in general electronics retail and wholesale distributive trades should be certified as referring only to private articles not being re-sold for merchandising purposes.
- Commercial advertising on these pages Contact Newsletters Unlimited.
- Copy typed or printed clearly please, and received by the deadlines shown on page 1 of each issue of Amateur Radio.

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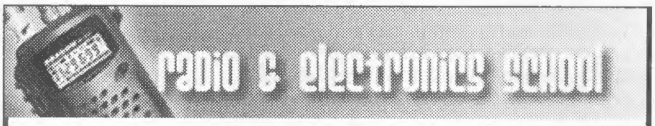

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Are you managing the estate of a 'Silent key'?

Please save any QSLs for the National QSL collection, but first contact:

The Hon. Curator,
Ken Matchett VK3TL
on (03) 9728 5350
or email: jeandawson@iinet.net.au

Rare DX, special call-signs prefixes and suffixes, pictorials and pre-war QSLs are needed.

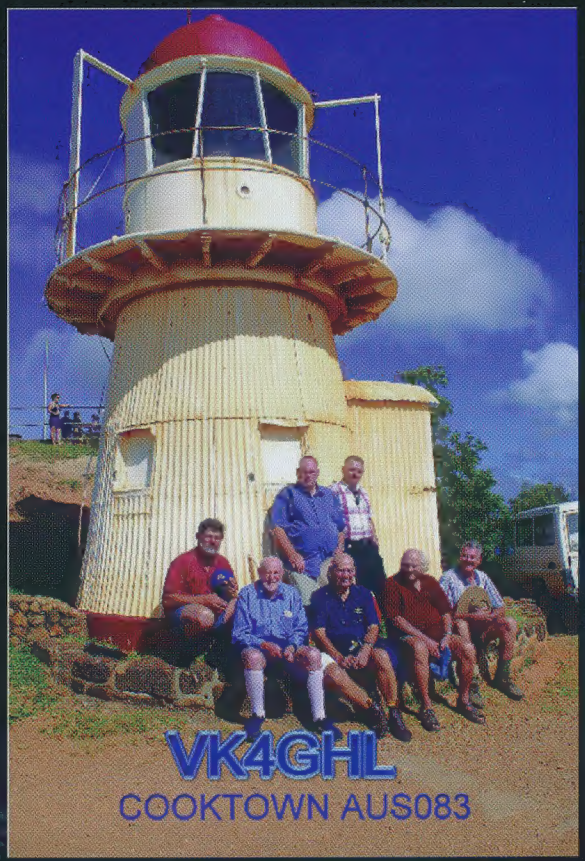
Let us save something for the history of amateur radio.

INTERNATIONAL LIGHTHOUSE & LIGHTSHIP WEEKEND

19th & 20th August

Many VK Clubs participated in one of the most picturesque and photogenic events on the 2006 calendar.

See their full stories and more pictures in the centre pages.



Right: QSL card from Operation Grassy Hill lighthouse at Cooktown

Below right: David VK5HDW at Cape Jaffa

Below: The Pine Islet lighthouse at Mackay

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Amateur

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